



The Sherwin-Williams Company  
101 Prospect Avenue, N.W.  
Cleveland, Ohio 44115-1075

January 19, 1988

8326

FEDERAL EXPRESS

Mr. Kerry Street  
U.S. Environmental Protection Agency  
Region V  
Hazardous Waste Enforcement Branch  
230 S. Dearborn  
Chicago, Illinois 60604

Re: Fields Brook Request for Information

Dear Mr. Street:

Enclosed please find The Sherwin-Williams Company's response to the U.S. EPA's Request for Information regarding the above-referenced site.

In accordance with our telephone conversations regarding this matter, The Sherwin-Williams Company will continue to try and locate any and all documents pertaining to the subject site and will supplement the enclosed answers as appropriate.

Thank you for your time and cooperation regarding this matter. Should you have any questions regarding the enclosed, please do not hesitate to contact me.

Very truly yours,

Al Arters  
Environmental Engineer Specialist  
(216) 566-2969

AA/im

Enclosure

cc: Ms. Susan Swales



UNITED STATES ENVIRONMENTAL  
PROTECTION AGENCY  
REGION V

In the Matter of:

FIELDS BROOK  
ASHTABULA COUNTY, OHIO

)  
) Request for Information  
) Pursuant to Section 104  
) of the Comprehensive  
) Environmental Response,  
) Compensation and Liability  
) Act as amended 42 U.S.C.  
) §9604, and Section 3007 of  
) the Resource Conservation  
) and Recovery Act, 42 U.S.C.  
) §6927.

REQUEST FOR INFORMATION

GENERAL OBJECTIONS

Now comes The Sherwin-Williams Company and states its general objections to the Request for Information dated November 6, 1987 ("RFI") as follows:

1. That some of the information responsive to the RFI is subject to and protected by the attorney-client privilege and, consequently, will not be produced.

2. That some or all of the information requested is confidential and contains trade secrets of The Sherwin-Williams Company.

3. That some of the information requested is attorney work product.

4. That many of the requests for information are vague, ambiguous or contain terms which can be construed in various manners, therefore, response is impossible.

5. That much of the information requested is no longer in the possession or control of The Sherwin-Williams Company,

therefore, cannot be produced. Without waiving any of the foregoing, The Sherwin-Williams Company answers the RFI as follows:

The following is an index of Documents provided pursuant to this RFI:

<u>Document</u>	<u>Description</u>
A	Agreement of Sale dated October 11, 1974
B	Legal description of property
C	Waste Water Survey dated March 13, 1974
D	Water sampling for pH dated July 21, 1972
E	Waste water sampling OSEPA dated May 24, 1972
F	Water Pollution Control Certificate No. 195 (WPC-3) dated November 13, 1970 and attachments
G	Water Pollution Control Certificate No. 196 (WPC-3) and Attachments November 13, 1970.
H	Air Pollution Control Certificate No. 1352, June 30, 1971 and attachments.
I	Air Pollution Control Certificate No. 1354, June 30, 1971 and attachments.
J	Ohio Water Pollution Control Board Permit No. 2366, February 11, 1970 and attachments.
K	Ohio Water Pollution Control Board Permit No. 2106.3, August 20, 1970 and attachments.
L	Ohio Water Pollution Control Board Permit Renewal. Application to Discharge Industrial Wastes into Waters of the State, October 15, 1970 and attachments.
M	Same. December 21, 1970 and attachments.
N	NPDES Application Review, June 21, 1973, and Attachments No. OH0700X2000205.

O Same. March 5, 1973.

P Same. July 16, 1973.

Q Army Corps. of Engineers Discharge permit  
Application No. 000205, May 9, 1972.

R Ohio EPA - Solids Retention Basin, May 24, 1973.

S Ohio EPA Permit Applications - Titanium  
Tetrachloride and Titanium Dioxide, etc.,  
October 10, 1973.

T Permits for Titanium Tetrachloride and Titanium  
Dioxide Plants, etc., February 9, 1974.

U Plant Waste Analysis, May 23, 1973.

V Schedule of insurance policies.

W Waste Water Facilities and Treatment dated July 10,  
1968.

1. The Sherwin-Williams Company, is an Ohio corporation. Date of incorporation was July 16, 1884. Registered Agent is Larry J. Pitorak, Vice President, Secretary-Treasurer and General Counsel, 101 Prospect Avenue, N.W., Cleveland, Ohio 44115 (hereinafter referred to as "TAC").
2. 2900 Middle Road  
Ashtabula, Ohio 44004  
This was the only facility owned by TAC in the Fields Brook water basin.
3. The aforementioned facility was sold by TAC to SCM Corporation, a New York corporation under Agreement of Sale dated October 11, 1974, a copy of which is attached hereto as Document A.
4. See copy of legal description attached hereto as Document B.
5. TAC no longer owns or operates any facility in the Fields Brook water basin, see answer to RF1 #3 above.
6. a) August 1969 was the plant completion and startup date for the production of titanium dioxide. See Document C. The exact date of the barium-strontium start up is not known, but facility was in operation as early as January 1968. See Document W.

- b) TAC purchased various parcels from individual property owners and consolidated into one tract.
  - c) Titanium dioxide and barium and strontium chemicals.
  - d) No position at this time.
  - e) No known documents at this time. See generally Documents "A" and "B".
  - f) 2900 Middle Road  
Ashtabula, Ohio 44004
  - g) See RFI #6(a) above.
- 7. Records of plant personnel, addresses and dates of employment are not known to TAC at this time. It is known George Wyman was Plant Manager for most of TAC's operations. Wyman has retired and last known address is 245 Port Noble Drive, Bloomsburg, Pennsylvania 17815.
  - 8. TAC has no known documents, information or knowledge with respect to this RFI at this time. See generally answers to RFI #3 and #6(b) above.
  - 9. TAC has no known documents, information or knowledge with respect to RFI at this time.
  - 10. TAC has no known documents, information or knowledge with respect to RFI at this time.
  - 11. TAC has no known documents, information or knowledge with respect to RFI at this time.
  - 12. TAC has no known documents, information or knowledge with respect to RFI at this time. See generally Document R.
  - 13. TAC has no known documents, information or knowledge with respect to RFI at this time.
  - 14. Yes, TAC had an NPDES permit to discharge into Fields Brook. Permit No. OH0000523. See Document "N".

15. For a description of the Titanium Dioxide process see Documents I, S, U and W. TAC has no known documents, information or knowledge at this time as to the Barium Strontium manufacturing process. For years of operation see RFI #3 and #6(a). For raw materials associated with Titanium Dioxide see attached Documents C and S. TAC has no known documents, knowledge or information as to the raw materials associated with the Barium Strontium operation other than the basic raw materials included: Barium Sulfate and coal.
16. TAC has no known documents, information or knowledge at this time with respect to this RFI.
17. TAC has no known documents, information or knowledge at this time with respect to this RFI. See generally Documents U and W.
18. TAC has no known documents, information or knowledge at this time with respect to this RFI.
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31. TAC has no known documents, information or knowledge at this time with respect to this RFI. See generally Documents R, U and W.
32. TAC has known documents, information or knowledge at this time with respect to this RFI.
33. TAC has no known documents, information or knowledge at this time with respect to this RFI.
34. TAC has no known documents, information or knowledge at this time with respect to this RFI.
35. TAC has no known documents, information or knowledge at this time with respect to this RFI.
36. TAC has no known documents, information or knowledge at this time with respect to this RFI.
37. See Document V.

CERTIFICATION

The undersigned hereby certifies that the Answers and Documents supplied in response to the foregoing Request for Information are true, accurate and authentic to the best of the undersigned's knowledge and belief.

By: Al Asters Title  
Environmental Engineer Specialist

STATE OF OHIO } ss  
COUNTY OF CUYAHOGA }

Sworn to and subscribe before me this 19<sup>th</sup> day of January, 1988, by Al Asters.

Richard M. Weaver  
Notary Public

RICHARD M. WEAVER, Attorney At Law  
Notary Public - State of Ohio  
My commission has no expiration date.  
Section 147.03 R. C.

10/9/74

Final

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AGREEMENT OF SALE

SALE OF CERTAIN ASSETS OF  
THE SHERWIN-WILLIAMS COMPANY  
(an Ohio corporation)

TO

SCM CORPORATION  
(a New York corporation)

As of October 11, 1974

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Document "A"

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AGREEMENT dated as of the 11th day of October, 1974 between THE SHERWIN-WILLIAMS COMPANY, an Ohio corporation ("Seller") and SCM CORPORATION, a New York corporation ("Purchaser").

W I T N E S S E T H :

WHEREAS, Seller owns certain real estate, tangible and intangible property, building, machinery and equipment located at 2900 Middle Road, Ashtabula, Ohio, substantially all of which is used in the manufacture of titanium dioxide; and

WHEREAS, Seller desires to sell its assets at such location except certain assets hereinafter defined and Purchaser desires to buy such assets;

NOW, THEREFORE, in consideration of the mutual covenants herein contained and other valuable consideration the receipt of which is hereby acknowledged, Seller and Purchaser agree as follows:

1. DEFINITIONS. The following terms, when used in this Agreement, shall, unless the context otherwise requires, have the following meanings:

"Assets" shall mean the aggregate of Inventories, Machinery, Personal Property, Real Estate, and Technical Information, all as herein defined.

"Closing" and "Closing Date" shall have the respective meanings given such terms in Section 5(e).

"Excepted Assets" shall have the meaning given such term in Section 5(a).

"Installment Payment" shall have the meaning set forth in Section 5(c)(11) hereof.

"Inventories" shall mean all inventory of raw material and work in process, relating to the production of Product at the Plant, including Inventory in transit or wherever located, including but not limited to those listed on Schedule A hereto. Finished goods inventories are specifically excluded from Inventories.

"Machinery" shall mean that machinery and equipment used by Seller in the production of the Product at the Plant, together with all spare parts and maintenance supplies pertaining thereto, wherever located, including but not limited to the machinery and equipment listed on Schedule G.

"Parties" shall mean Seller and Purchaser.

"Plant" shall mean the aggregate of, as defined herein, Real Estate, Machinery and Personal Property located in Ashtabula, Ohio, and at which the Technical Information is utilized.

"Pension Plan" shall mean the retirement plan in effect on the Date of Closing for employees of Seller and certain of its subsidiaries and affiliates, entitled The Sherwin-Williams Company Salaried Employees' Retirement Plan.

"Personal Property" shall mean assets pertaining to the operation of and located at the Plant, including but not limited to tangible and intangible personal property and rights thereto used in the operation of the Plant which are not otherwise included in the definitions of Machinery, Technical Information or Inventories, such as computer tapes, systems and programs, prepaid expenses, lists of customers and suppliers, contract rights, packaging and shipping materials, supplies, orders from customers and records necessary to Purchaser to continue operation of the Plant, the existing Environmental Protection Agency Permits, purchase contracts, purchase orders and purchase commitments of Seller directly pertaining to the Assets and operations of the Plant, and other intangibles.

"Plant Operating Statements" shall mean the financial statements described in Section 2(b).

"Promissory Note" shall mean the non-negotiable promissory note of Purchaser to be delivered at the Closing and described in Section 5(c)(ii).

"Product" shall mean those grades of Titanium Dioxide (TiO<sub>2</sub>) presently being produced at the Plant as more specifically defined on Schedule B hereto.

"Real Estate" shall mean the land and the buildings, structures, fixtures and improvements presently thereon located at 2900 Middle Road in Ashtabula, Ohio, as more fully described in Schedule F.

"Supply Agreement" shall mean the Agreement of Sale and Option between Seller and Purchaser.

"Technical Information" shall mean the patents, licenses, processes, designs, inventions, trade secrets, know-how and technology, whether under license to, or owned by, Seller and used in the production of the Product or planned for use by Seller in the beneficiation of ilmenite sands and/or titanium bearing ores, including drawings, plans, specifications, blueprints, instructions, records, data, information, knowledge and procedures used in the production of the Product or planned by Seller for use in the beneficiation of ilmenite sands and/or titanium bearing ores, all such information as identified in Schedule C.

2. REPRESENTATIONS AND WARRANTIES OF SELLER. Seller represents, covenants and warrants that:

(a) Incorporation. Seller has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Ohio, with corporate power and authority to own the properties which it now owns and to conduct the business in which it is now engaged. Seller is qualified to conduct its business and is in good standing in Ohio.

(b) Plant Operating Statements. Seller has delivered to Purchaser the following statements pertaining to the Plant for the fiscal year ending August 31, for each of the years 1970 through 1974, and undertakes to deliver such information on accounting policies applied in such statements as Purchaser shall request. Such statements have been prepared in accordance with generally accepted accounting

principles applied on a consistent basis throughout the periods covered thereby and present fairly and accurately the production and costs for the years and periods

licated:

Profit Center Operating Income Statements  
Cost of Goods Manufactured and Sold Statements  
Product Manufacturing Cost Statements

(c) Transactions since Plant Operating Statements. Since August 31, 1974, Seller has carried on its Plant operations in the ordinary course and Seller has not incurred any liabilities or obligations with respect to the Assets other than in the ordinary course of its Plant operations as theretofore conducted. Since August 31, 1974, Seller has not made any change in the Pension Plan, group life insurance plan, hospitalization plan or similar benefit plans in which its employees employed at the Plant participate, other than changes to such employee benefit plans which affect substantially all salaried employees of Seller, or granted any increase in excess of 10% in the annual compensation payable to any of its employees employed at the Plan having an annual salary of \$15,000 or more, except as agreed to in writing by Purchaser.

(d) Certain Taxes. All real property taxes and assessments (general or special) which have become a lien upon the Real Estate for any period up to and including the Closing Date shall be prorated with Seller paying all such taxes and assessments for all periods up to and including the Closing Date and Purchaser paying all such taxes and assessments for all periods after the Closing Date. On the Closing Date, the Seller shall pay to the Purchaser its prorated share of such taxes and assessments for the calendar year 1974 based on amounts shown by the County Treasurer's tax duplicate for the calendar year 1973, and when the official County Treasurer's tax duplicate for the calendar year 1974 becomes available, the parties shall promptly adjust such proration on the basis of the amounts shown by the 1974 duplicate.

Ohio personal property taxes for the 1974 taxable year, which are validly due and paid by Seller, with respect to the Assets transferred hereunder, shall be prorated as of the Closing Date. Purchaser agrees to reimburse Seller for Ohio personal

erty taxes for the 1975 taxable year which are validly assessed to Seller with respect to the Assets transferred hereunder. Seller agrees to furnish to Purchaser

relevant information from its Ohio personal property tax returns for 1974 and 1975 as filed with the Ohio Department of Taxation in order that Purchaser may verify the amount of such taxes.

Seller agrees to indemnify and hold Purchaser harmless for any additional real or personal property taxes levied by the State of Ohio subsequent to the Closing Date upon the Assets in regard to the period up to and including the Closing Date. Seller agrees to notify Purchaser immediately in the event additional Ohio personal property taxes with respect to the Assets are assessed or proposed to be assessed against Seller for the 1974 or 1975 taxable years. Purchaser agrees to notify Seller immediately in the event additional Ohio real property taxes, with respect to the Real Estate, are assessed or proposed to be assessed against Purchaser for the 1974 taxable year. With the consent of Purchaser, which consent shall not be unreasonably withheld, Seller may take any and all action with respect to proceedings relating to such additional real or personal property taxes so levied. Such action shall include but is not limited to the right to settle, compromise and dispose of such proceedings.

Seller shall be entitled to the benefits of any refunds and credits for real property taxes on the Real Estate and Ohio personal property taxes on the Assets which may arise for the period up to and including the Closing Date and Purchaser shall be entitled to the benefits of any such refunds and credits which may arise for the period after the Closing Date.

Sales tax, if any, payable on the transfer of any of the Assets shall be paid by the Purchaser.

(e) Litigation. Seller has delivered to Purchaser Schedule D listing litigation or governmental investigation presently pending or, to the knowledge of

ler, threatened against Seller which in any way affects the Assets. Except as set forth on said schedule, there is no litigation, proceeding or governmental investigation pending or, to the knowledge of Seller, threatened against or relating to Seller or the transactions contemplated by this Agreement, which in any way affects the Assets.

(f) Environment. Seller has delivered to Purchaser Schedule E attached hereto listing all governmental agencies which have contacted Seller concerning alleged violations of laws relating to the environment and employee safety at the Plant, and listing all compliance programs relating thereto established by any governmental agency which materially affect the Assets. No governmental agency or any other person has asserted to Seller that Seller is in violation of any law, regulation, ordinance, order, injunction or decree or any other requirement of any governmental body or court with respect to the Federal Occupational Safety and Health Act of 1970 or any federal, state, county or local ordinance relating to the laws affecting the environment and employee safety and to the best of Seller's knowledge it is in compliance with any and all such compliance programs which materially affect the Assets, except as noted on Schedule E.

(g) Properties, Contracts and Certain Other Data. Seller has delivered or made available to Purchaser, the following schedules which are correct and complete in all material respects as of their respective dates:

(1) Schedule F entitled "Real Estate" that described the Real Estate and real property interests owned or leased by or to Seller pertaining to the Plant, with surveys, maps and sketches identifying such properties and the principal facilities, buildings and structures located thereon, showing as to each property, the location, size, nature of ownership, and use to which such property is being employed or the use for which it was intended if not presently used in the operations of Seller and

owing all mortgages, obligations or encumbrances thereon, with appropriate identification of the property or properties upon which they are a burden. Neither this provision nor Schedule F is intended as a warranty by Seller of title to the Real Estate;

(ii) Schedule G entitled "Machinery and Tangible Personal Property" containing descriptions sufficient to identify Machinery and Tangible Personal Property having a useful life of one (1) year or more and an original cost in excess of \$1,000;

(iii) Schedule C entitled "Technical Information" containing descriptions of Technical Information as defined herein;

(iv) Schedule H entitled "Contracts" listing each and every contract and order regarding the sale of the Product, purchase contracts, purchase orders and purchase commitments of Seller directly pertaining to the Assets and operations of the Plant, including but not limited to contracts, orders, and commitments for the purchase of raw materials, leases, contracts and agreements and instruments of every kind which affect the Assets and the operations of the Plant provided, however, that no contract, order, commitment, agreement or instrument need be listed or provided under which the Seller is not obligated in any amount greater than \$10,000;

(v) Schedule I entitled "Labor Agreement and Employee Benefit Plans" listing all union or other labor contracts, agreements or written arrangements, and all "fringe benefit" plans, including but not limited to investment plans, group life insurance, medical insurance, retirement or pension plans covering employees employed at the Plant. Seller represents and warrants (i) that, except as indicated on the schedule, Seller is not in material default in respect thereof nor knows of any facts presently existing not disclosed to Purchaser which might create a material default in respect thereof, and (ii) that none of the employees at the Plant participate in Seller's stock option, employee profit-sharing or contingent deferred compensation plans;

(vi) Schedule J entitled "Pension Plan - Past Service Liability" containing appropriate information including employees' names adequate for an actuarial determination of the past service liability of Seller under the Pension Plan for non-union employees whose employment at the Plant is expected to continue following the Closing Date;

(vii) Schedule K entitled "Labor Controversies" describing all labor controversies including unresolved grievances, if any, between Seller and persons employed at the Plant and/or the unions representing such employees, which occurred at any time since August 31, 1970 to the date hereof (those settled at the third step or earlier being identified on Schedule K only by number).

Schedules requested by items (ii) and (iii) of this subsection (g) identify any items on the respective schedules leased from or to third parties and any property burdened by chattel mortgages or other security agreements. Seller agrees to supply to Purchaser as promptly as reasonably practicable information with respect to any changes in the matters referred to above in this subsection (g) occurring since the date of said schedules. The originals or certified complete and correct copies of all deeds by which Seller obtained title and leases relating to the properties referred to in clause (i) of this subsection (g), and of the agreements, orders, commitments, contracts, plans and arrangements referred to in clauses (iv), (v), (vi) and (vii) of this subsection (g) will be delivered or made available by Seller to Purchaser upon Purchaser's request.

(h) Warranties of Title and Technical Information.

(i) Seller hereby represents and warrants that it has good and marketable title to the Machinery and to the Personal Property described in subsection 2(g)(ii) free and clear of all mortgages, encumbrances, liens, equities, claims, charges, rights of ways, covenants, conditions and restrictions except for such matters as set forth in the schedules attached hereto. The properties used in producing the

Product described in said schedules provided in subsection 2(g)(i) and (ii) have been repaired and maintained in accordance with sound operating practices and are in good operating condition and repair. The proposed maintenance plan outlined in Schedule L has been made available to Purchaser for its review and Purchaser acknowledges notice of planned maintenance scheduled for the balance of Seller's fiscal year. The Plant has a design capacity of 27,000 tons of Product per year and has produced at least 29,000 tons of Product in each of the last two (2) fiscal years ending August 31, 1974. Seller has not received notice that the present operations of the Plant violate any building or zoning code.

(ii) The Technical Information is all the information of such nature used by Seller in the operation of the Plant.

(i) No Defaults. To the best of Seller's knowledge, Seller is not in default under any agreement which affects the Assets to which it is a party or by which it is bound, or with respect to any statute, regulation, order, writ, injunction or decree of any governmental body or any court (except possible immaterial defaults which can be cured and the existence of which does not impair its ability to operate the Plant) and has no pending material dispute with labor unions (not including grievance or similar proceedings listed on Schedule K). The execution and delivery of conveyances, leases or other contracts necessary to the consummation of the transactions contemplated by this Agreement will not result in any breach or violation of or default under any agreement or other instrument, including any agreement evidencing long-term debt of Seller, to which Seller is a party or by which it is bound.

(j) Finder's or Broker's Fee. Seller has not incurred or caused to be incurred by the other party hereto any liability for any fee or commission in the nature of a finder's, originator's or broker's fee in connection with the subject matter of this Agreement.

(k) Authorization of Agreement. Seller has corporate power and authority to execute and deliver this Agreement and to perform its obligations hereunder and the execution, delivery and performance of this Agreement have been duly authorized by its Board of Directors or the Executive Committee of the Board of Directors.

(l) Information Furnished to Purchaser. All information heretofore or hereafter furnished by Seller to Purchaser in writing in accordance with the provisions of this Agreement is or will be correct and complete in all material respects as of the dates furnished, and all estimates contained therein are or will be reasonable and based upon the best data and information known by Seller.

(m) Plant Operating Statements and Letters from Auditors. Seller, at its expense, shall request Ernst & Ernst, its independent accountants, to read the Plant Operating Statements and to perform such procedures as may be reasonably requested by the Purchaser as may be required to enable Ernst & Ernst to issue a letter which should describe the procedures followed with respect to the inclusion of the Profit Center Operating Income Statements as a segment of the details of the audited consolidated income statement of Seller for five (5) years ended August 31, 1974, and state that material expenditures applicable to the Plant have not been charged to other segments of the Seller's consolidated entity.

Seller shall also cause to be delivered to the Purchaser, at the expense of the Seller, a letter from Ernst & Ernst relative to the period from August 31, 1974, to a date not more than five (5) days prior to the Closing Date. Such letter will state that Ernst & Ernst has:

(i) read the September 1974 and 1973 Profit Center Operating Income Statement and the Seller's September 1974 budget for the Plant, and

(ii) made inquiries of certain officials of the Company who have responsibility for financial and accounting matters as to whether the financial information referred to in (i) above represents the operations of the Plant and are stated on a

basis substantially consistent with those issued by the Company for prior periods. As a result of such tests, nothing has come to their attention that caused Ernst & Ernst to believe that the September 1974 Profit Center Operating Income Statement for the Plant does not represent its operations for the month and that they are not stated on a basis substantially consistent with those issued by the Company for prior periods and that the information set forth therein is not materially inaccurate or misleading.

(n) Rutile Agreement. Seller shall use its best efforts to enter into an agreement, in form assignable by Seller to Purchaser, with The British Metal Corporation substantially in accordance with said corporation's proposal to Seller dated August 27, 1974 and, when such agreement has been entered into, shall assign the same to Purchaser. Seller shall not have any liability to Purchaser if it fails to enter into such agreements. If such agreements can be entered into only on the basis that they are non-assignable by Seller, Seller shall nevertheless enter into the same and Purchaser shall purchase from Seller, at Seller's cost, any and all rutile purchased by Seller in discharge of its obligations under such agreements.

### 3. REPRESENTATIONS AND WARRANTIES AND CERTAIN COVENANTS OF PURCHASER.

Purchaser represents, covenants and warrants that:

(a) Incorporation. Purchaser has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of New York and is qualified and in good standing to do business in the State of Ohio.

(b) Financial Statements. Purchaser has delivered to Seller a copy of its annual reports to stockholders for the years 1970 to 1974, inclusive, containing consolidated balance sheets of Purchaser and wholly owned subsidiaries as of June 30 of each of said years, together with related statements of consolidated income for each the years 1970 to 1974, inclusive, all certified by Haskins & Sells, independent certified public accountants. Such financial statements have been prepared in accordance

with generally accepted accounting principles applied on a consistent basis throughout the periods covered thereby, except as stated therein, and present fairly the consolidated financial condition of Purchaser and wholly owned subsidiaries at the dates indicated and the consolidated results of its operations for the years indicated. Since June 30, 1974, there has not occurred any material adverse change in the business or financial condition of Purchaser.

(c) Authorization of Agreement. Purchaser has corporate power and authority to execute and deliver this Agreement and to perform its obligations hereunder and the execution, delivery and performance of this Agreement have been duly authorized by its Board of Directors.

(d) No Defaults. The execution and delivery of and the consummation of the transactions contemplated by this Agreement, the Assumption Agreement, the Supply agreement and the Promissory Note will not result in any breach or violation of or default under any agreement or other instrument to which Purchaser is a party or by which it is bound.

(e) Finder's or Broker's Fee. Purchaser has not incurred or caused to be incurred by the other party hereto any liability for any fee or commission in the nature of a finder's, originator's or broker's fee in connection with the subject matter of this Agreement.

(f) Transferred Records and Site to be Available to Seller. Purchaser will subsequent to the Closing Date make available to Seller at Seller's cost during Purchaser's normal business hours, at such times as Seller shall reasonably request, all books, records, memoranda and other data as transferred hereunder as Seller shall deem necessary or desirable for any appropriate purpose not inconsistent with the transfer of Assets to Purchaser.

Purchaser agrees to permit Seller, its employees, agents, independent contractors and other designated representatives upon reasonable notice under appropriate secrecy arrangements to have access to the Plant within a reasonable time subsequent to the Closing Date to facilitate Seller's recording and substantiation of the disposition of the Assets.

In connection with any audit of Seller's tax returns, Purchaser agrees to permit Seller, its employees, agents, independent contractors, other designated representatives and representatives of any taxing authority conducting any such audit to have access to the Plant.

Seller assumes full responsibility for any loss or damage resulting from any injury or death of any of its employees, agents, independent contractors or other designated representative while visiting the Plant and agrees to indemnify and save Purchaser harmless from any such loss or damage (including the expense of any claim or suit) except in the case of any such loss or damage which results from the willful or negligent acts or omissions of Purchaser or of its employees or agents.

(g) Information Supplied by Seller to be Confidential. Unless and until the transfer of Seller's Assets as provided for herein shall have consummated, the Purchaser shall keep confidential and prevent disclosure to persons other than its officers, counsel, accountants and other employees and agents having a need to know, all confidential information including all business records, data and Technical Information with respect to the Seller, its subsidiaries, affiliates and its licensors and their business and affairs heretofore or hereafter furnished to Purchaser by Seller, and shall not make use of such confidential information. For the purpose of this Agreement, confidential information shall not include any information:

- (i) which was known to Purchaser prior to its receipt from Seller (or DuPont);

- (ii) which becomes known to Purchaser independently of the disclosures of Seller (or DuPont); or
- (iii) which is published or otherwise made available to the general public through sources other than Purchaser.

In the event this Agreement is terminated without the transfer of Seller's Assets as provided herein, then Purchaser will promptly return to Seller or destroy all written documents and data so furnished by or obtained from Seller and all copies thereof.

If the transfer of Assets as provided herein is consummated, Purchaser shall observe and comply with all non-disclosure and secrecy obligations under the agreements listed on Schedule M attached hereto.

(h) Agreements Not Assigned. If the Parties agree any agreement or commitment of Seller, being assumed by Purchaser pursuant to this Agreement is not or cannot be assigned, Seller shall perform its obligation under such agreement or commitment and Purchaser shall be entitled to the benefit of any such agreement or commitment. Purchaser shall reimburse Seller for Seller's cost of performance under said agreement or commitment.

4. CERTAIN COVENANTS OF SELLER. Seller covenants and agrees that:

(a) Conduct of Operations Prior to Closing Date. From and after the date of this Agreement and until the consummation of the Closing, except as Purchaser shall otherwise specifically consent in writing, Seller and its subsidiaries:

(i) will not incur or agree to incur any liability or obligation (absolute or contingent) with respect to the Assets, except current liabilities and liabilities and obligations (including long term supply contracts and other term contracts consistent with Section 4(a)(v)) incurred or entered into in the ordinary course of business as heretofore conducted, and liabilities incurred in connection with the consummation of this Agreement or contemplated by the terms hereof;

(ii) will not grant any general or cost of living increase in the rates of pay of any of its hourly paid employees, except such increases resulting from prior negotiations with unions or other employee organizations, or grant any increase in the salaries or other compensation of salaried employees employed at the Plant whose annual rates of compensation are \$15,000 or more except for a November 1, 1974 general salary increase heretofore disclosed by Seller to Purchaser or except within a salary budget theretofore approved by Purchaser, or grant any increase in the pension, retirement or other employment benefits of any character of, or grant any new benefits to, any of the employees insofar as such affects the wages, compensation or benefits of employees at the Plant other than changes to such employee benefit plans which affect substantially all salaried employees of the Seller;

(iii) will not grant any options under the Employee Stock Option Plan or any other options or rights to purchase or acquire shares of its capital stock or evidence of equivalent capital interest in any class of stock or make any change in the Employee Stock Purchase and Savings Plan affecting the employees at the Plant other than changes to such employee benefit plan which affect substantially all salaried employees of the Seller;

(iv) will not authorize any additional capital expenditures with respect to the Plant (other than for ordinary renewals and replacements) except in accordance with a capital expenditures budget submitted to Purchaser for capital expenditures at the Plant or at the Plant site;

(v) will request the consent of Purchaser before entering into any contract for the sale of Product of more than one (1) year's duration or in excess of one thousand (1,000) tons of Product per year, and before entering into any other contract of more than one (1) year's duration or involving total purchases by Seller of more than \$10,000 over the life of the contract provided, however, that such consent shall need be requested only when such contract would be assumed by the Purchaser and

ecome a part of the Assumption Agreement;

(vi) will not release any of its rights or claims having substantial value or which could materially affect the Assets;

(vii) will carry on its business of producing the Product in the ordinary course and in substantially the same manner as heretofore;

(viii) will use its best efforts to maintain and preserve its business organizations intact insofar as they affect the operations of the Plant and to retain its present employees employed at the Plant so that they may be available to the Purchaser on and after the Closing Date except for those employees listed on Schedule N;

(ix) will permit Purchaser, its authorized officers, counsel, accountants and other employees and agents shown to have a need to know, subject to the terms of the appropriate secrecy agreement entered into by the parties dated June 18, 1974, to have full access to all its properties, records and documents respecting the Assets and will furnish to Purchaser such financial and other information consistent with this Agreement with respect to such properties and affairs (including monthly Plant Operating Statements) as Purchaser may from time to time reasonably request;

(x) will maintain in full force and effect adequate insurance coverage on the Assets up to the Closing. The Purchaser shall be responsible to maintain insurance on the Assets at and after the Closing.

(xi) will from time to time deliver or make available to Purchaser such list or other documents, in addition to or supplemental to those referred to in Section 2, to the end that prior to the Closing Date Purchaser shall have received or reviewed complete and up-to-date information with respect to Assets, all to the extent that such information pertains to the operations of the Plant and that Purchaser shall reasonably request.

5. TRANSFER OF SELLER'S ASSETS AND ASSUMPTION OF LIABILITIES. Subject to

the terms and conditions set forth in this Agreement:

- (a) Transfer of Assets. At the Closing, Seller shall convey, assign, transfer and deliver the Assets to Purchaser, provided, however, that there shall not be included in the Assets so to be conveyed and transferred, and Seller shall retain the following (the "Excepted Assets"):
- (i) Cash.
  - (ii) Receivables of the Plant.
  - (iii) Finished goods inventories on hand at 12:01 a.m. on day following the Closing Date.
  - (iv) Machinery, equipment and supplies located at the Plant and used for the production of barium and not for production of the Product, per Schedule O attached.
  - (v) The books and records of Seller located at the Plant not related to the Assets and operations being transferred or to the liabilities being assumed by the Purchaser.
  - (vi) The Seller's right to receive any allocation of fuel oil with respect to the Plant to the extent of thirty-three and three-tenths percent (33.3%) of the quantity covered by the allocation.
  - (vii) All prepaid insurance payments.

The transfer of Assets shall be effected by such instruments of transfer and conveyance as Purchaser shall reasonably request. Except with respect to Real Estate, such instruments shall warrant the title to the Assets to be free and clear of all liens, encumbrances and security interests whatsoever except as expressly permitted hereby and shall be effective to vest in the Purchaser good and marketable

title in and to the Assets free and clear of all liens, encumbrances and security interests, except as otherwise permitted hereby. The Real Estate shall be conveyed to Purchaser by Quitclaim Deed using a perimeter description of the Real Estate to be prepared by The Land Title Guarantee & Trust Company based upon survey dated August 30, 1966 and last revised and certified by Edward G. Delfs on October 8, 1974. Purchaser shall retain any and all records transferred to it which are required by law to be retained by Seller for the period or periods so required and such records shall be made available to Seller at Seller's cost whenever necessary to comply with any such requirement or for any other proper purpose.

Seller shall remove the finished goods inventory and the books and records referred to in clause (v) above from the Plant within a reasonable time after Closing. The Excepted Assets set forth in Section 5(a)(iv) shall be removed from the Plant no later than one (1) year following the Closing Date, and at such times and in such manner as mutually agreed by Purchaser and Seller. However, during said one (1) year period Seller agrees to remove said Excepted Assets upon ninety (90) days notice from Purchaser or agrees to abandon in place said Excepted Assets. Seller shall indemnify Purchaser for any damage, costs or expenses incurred by Purchaser with respect to such removal including, if necessary, the removal and repair of a portion of the structure.

(b) Consideration for Assets Transferred. In consideration of the transfer of Assets as above provided, Purchaser shall pay to Seller in New York Clearing House funds, the sums hereinafter provided in subsections (c)(i) and (c)(ii) of this Section 5 and shall assume and agree to pay, perform and discharge, the debts, obligations and liabilities of Seller, (including all Workmen's Compensation claims filed after the Closing Date except those as to which the claimed injury occurred before the Closing Date and Seller had actual knowledge thereof prior to the Closing Date) to the

extent expressly agreed to by Purchaser in a written Assumption Agreement, in form and substance substantially as set forth in Schedule P, and no others.

The Purchaser shall be entitled to claim and assert as a defense against third parties with respect to debts, obligations and liabilities of Seller assumed by Purchaser any counterclaim, set-off, statute of limitations or other rights of Seller (but only to the extent that such counterclaim, set-off or other rights arose from a transaction or agreement relating to the Assets) to the same extent as Seller would have in the absence of the assumption thereof by Purchaser.

(c) Determination of Amount of Cash Consideration. The amount to be paid to Seller as provided in subsection (b) of this Section 5, shall be the sum of the amount specified in the following clauses (i), (ii) and (iii) of this subsection (c):

(i) At the Closing:

(1) \$9,765,000 as the first payment for the Assets transferred subject to adjustment by the amount determined by operation of Section 2(d).

(2) \$2,002,277 which represents the value of the Inventories set forth on the Plant inventory records as of August 31, 1974.

(ii) \$20,000,000 payable in eight equal quarterly Installment Payments, evidenced by non-negotiable Promissory Note of Purchaser in substance and form substantially the same as Schedule Q. The first Installment Payment shall be due the 91st day following the Closing Date. Purchaser agrees to pay Seller interest on the unpaid Installment Payments from the day following the Closing Date until the principal amount is paid in full. Interest shall be payable quarterly commencing on the 91st day following the Closing Date. The rate of interest shall be the prime rate of The Cleveland Trust Company, Cleveland, Ohio (being the best rate of interest generally

charged by The Cleveland Trust Company for unsecured short-term commercial loans to the most credit-worthy large commercial borrowers), from time to time in effect subject to adjustment to reflect any changes in said prime rate, each such adjustment to be effective upon the first calendar day following the day upon which the change in said prime rate is announced by The Cleveland Trust Company. Interest shall be computed on the basis of a 365 day year. Purchaser shall have the right, at any time and from time to time, on three (3) business days notice to Seller, to prepay in whole or in part the unpaid principal amount of any Installment Payment together with accrued interest on the amount prepaid to the date of prepayment, without penalty or premium of any kind.

(iii) On the 91st day following the Closing Date, there shall be an accounting for (a) the proration, all as of 12:01 a.m. on the day following the Closing Date, of utilities, service contracts, payroll liabilities and other expenses agreed to by the Parties, and (b) to the extent provided therein, adjustment for changes in the value of Inventory provided for in Section 5(b) hereof.

(d) Inventory Valuation Determination. An adjustment for changes in the value of Inventories between August 31, 1974 and 12:01 a.m. the day following the Closing Date ("Inventory Date") shall be determined and paid as follows:

Purchaser shall make a physical count of Inventories as of the Inventory Date. Such physical count shall be observed by Seller and by consulting engineers or independent auditors as the Parties may agree. The Parties shall then jointly determine the value of the Inventories as of the Inventory Date. For purposes of such determination the Inventories shall be valued as follows:

(i) Raw materials for use in making the Product in accordance with Schedule R, subject to (iii) and (iv) below;

(ii) The work in process at Seller's standard cost as applied during Seller's fiscal year beginning September 1, 1974, as certified by Seller.

(iii) Any items in the Inventories that are obsolete, not usable in the manufacture of the Products or are not in good and usable condition shall be excluded;

(iv) Any items in the Inventories that are not of the kind and quality which Seller had used in the production of the Product as the operations were conducted by Seller in the ordinary course immediately prior to the transfer shall be excluded.

Seller shall retain and not sell to Purchaser any such items which are so excluded, but Purchaser may purchase any such items on terms agreeable to the Parties.

If the value of Inventories at August 31, 1974 exceeds the determined value of the Inventories as of the Inventory Date, Seller shall pay the amount of the difference to Purchaser on the 91st day following the Closing Date; if the determined value of Inventories as of the Inventory Date exceeds the value of the Inventories as of August 31, 1974, Purchaser shall pay the amount of the difference to Seller on such 91st day. If the Parties cannot agree by said 91st day on the amount of rutile in inventory as of the Inventory Date, the amount thereof shall finally be determined by reducing the piles of rutile to zero through usage in the ordinary course of the Plant's operations. Seller shall have the right to examine applicable accounting records from Closing Date until the piles existing from the Inventory Date are zeroed. In the event that an additional shipment of rutile ore is received prior to the piles being zeroed, the Parties agree that the additional shipment will not be co-mingled with the existing piles. Until the existing piles of rutile are reduced to zero through usage, the Parties agree the payment on said 91st day shall be based upon Seller's estimate of the amount of rutile in inventory as of the Inventory Date (if it appears that payments are owing by Seller to Purchaser) or on Purchaser's estimate (if it appears that payments are owing by Purchaser to Seller), and a further payment shall be made as appropriate when such amount is finally determined in the manner foresaid.

(e) The Closing; Termination of Agreement for Passage of the Closing Date.

The transfer of Seller's Assets (herein called the "Closing") shall take place at the offices of the Glidden-Durkee Division of SCM Corporation, 900 Union Commerce Building, Cleveland, Ohio 44115, at 10:00 a.m. on October 11, 1974, (herein called the "Closing Date"), or at such other place or at such other time as Seller and Purchaser may mutually agree upon in writing, provided, however, that either Seller or Purchaser shall be entitled, by written notice or notices given from time to time to the other party not less than ten (10) days prior to any Closing Date heretofore fixed, to postpone the Closing to a date not later than November 15, 1974. If the Closing is not consummated on or before November 15, 1974, either Seller or Purchaser may at any time thereafter unless a later Closing Date has been mutually agreed upon in writing, terminate its obligations under this Agreement by written notice given to the other party, without liability of any kind on the part of either party to the other party or to any stockholder of such other party, except as herein expressly provided. At the Closing, Purchaser shall pay to Seller the sums specified in subsection (c)(1) of this Section 5, and deliver to Seller the instrument or instruments of assumption and agreement referred to in subsection (b) of this Section 5 and the Promissory Note referred to in subsection (c) of this Section 5, against delivery by Seller to the Purchaser of the instruments of transfer and conveyance referred to in subsection (a) of this Section 5, with all necessary documentary and tax stamps affixed thereto together with satisfactory provision for payment of transfer taxes, conveyancing fees and recording costs, together with the Title Insurance policy referred to in Section 6(b). Any transfer tax or conveyance fee imposed by the State of Ohio or the County of Ashtabula shall be paid by Seller and the cost of recording the instruments of conveyance shall be paid by Purchaser.

(f) Pension Plan: Past Service Liability. The Purchaser agrees to take

the necessary steps to extend participation in its Salaried Employees' Retirement Income Plan, as amended, to the employees listed on Schedule J and to extend full service credit under such plan for said employees' period of continuous service with Seller.

(g) Labor Contracts. From and after the Closing the Purchaser will assume all Seller's obligations under collective bargaining and other labor agreements covering persons employed at the Plant on the Closing Date.

(h) Consents to Assignment. Seller shall exercise its reasonable efforts to obtain all consents which in the opinion of Purchaser or its counsel may be required to transfer to Purchaser the Assets and the business contemplated hereby.

(i) Letter of Credit. In accordance with the terms of the Purchase Agreement between Seller and Rutile & Zircon Mines dated November 28, 1967, Seller has issued a letter of credit ("Letter of Credit") in the amount of A\$1,246,978.80 representing 90% of the invoice price of A\$1,385,532.00 for approximately 11,500 long tons of rutile ore presently anticipated to be loaded on the vessel Spraynes on or about October 12, 1974. If before Closing Seller's Letter of Credit is negotiated to Rutile & Zircon Mines for payment of said shipment of rutile ore, the Purchaser shall reimburse Seller at the Closing. If the Letter of Credit is negotiated after the Closing, Purchaser shall reimburse Seller promptly upon written notice from Seller that payment has been made.

6. CONDITIONS TO OBLIGATIONS OF PURCHASER. The obligations of Purchaser under this Agreement are subject to the satisfaction at or prior to the Closing of the following conditions, but compliance with any such condition may be waived by Purchaser:

(a) Warranties and Agreements of Seller; Officer's Certificate. All representations and warranties of Seller contained in this Agreement shall be true

and correct at and as of the Closing with the same effect as though such representations and warranties were made at and as of the Closing, and Seller shall have performed and complied with all the covenants and agreements and satisfied all the conditions required by this Agreement to be performed, complied with or satisfied by it at or prior to the Closing; and Purchaser shall have received a certificate (dated the Closing Date and signed by a duly authorized officer of the Seller, and as to the financial matters by the Senior Vice President Administration of Seller, and stated to be to the best of their knowledge and belief and to be based on investigation deemed by them to be reasonable) to the foregoing effect.

(b) Title Insurance. Seller shall cause to be delivered to Purchaser an owner's policy of title insurance, ALTA form, issued by Chicago Title Insurance Company in an amount to be determined by Purchaser, insuring Purchaser that, as of the time of the filing of the deed on the Closing Date, good and marketable fee simple title to the Real Estate is vested in Purchaser free from all liens and encumbrances except those specified in Schedule F. The cost of such policy of title insurance shall be borne one-half by Seller up to a maximum of \$11,000 for Seller's share and the balance by Purchaser.

(c) Instruments of Conveyance. The instruments of conveyance and transfer referred to in Section 5(a) shall be satisfactory in form and substance to Purchaser.

(d) Litigation. No action or proceeding seeking to prevent or invalidate the consummation of this Agreement shall have been commenced or threatened, and no investigation by any Governmental department or agency shall have been commenced or threatened that in the opinion of counsel is likely to eventuate in any such action or proceeding, and no other claim or demand shall be pending or threatened which in the reasonable opinion of the Purchaser renders it impossible or inadvisable to consummate this Agreement; and no other litigation, proceeding or governmental

investigation shall be pending, or to the knowledge of Seller threatened, against Seller or any of its subsidiaries or affiliates of such character as might materially and adversely affect the value of the Assets.

(e) Good Standing. Seller shall have delivered to Purchaser appropriate certificates of good standing in Ohio, dated as of a date not more than ten days prior to the Closing Date, with respect to Seller.

(f) Opinion of Counsel for Seller. Purchaser shall have received from counsel for Seller, Jones, Day, Cockley and Reavis, an opinion or opinions, satisfactory to Purchaser, dated the Closing Date, with respect to:

(i) the due incorporation and valid existence of Seller,

(ii) the validity and sufficiency of all corporate proceedings taken by Seller and its Board of Directors or the Executive Committee of the Board of Directors to adopt and carry out the sale of Assets and to authorize the execution and delivery of this Agreement, the performance by Seller of its obligations hereunder and the consummation of the transactions contemplated hereby, and the validity, enforceability and binding effect upon Seller of this Agreement,

(iii) the sufficiency of the instruments of transfer and conveyance tendered to Purchaser, and the absence of any financing statements on file in respect to the Assets,

(iv) pending or threatened litigation as contemplated by Section 6(d), and

(v) such other matters related to this Agreement and the transaction contemplated hereby as Purchaser may reasonably request.

(g) Additional Information. Prior to the Closing, Seller shall have furnished to Purchaser and its counsel such information, certificates and other documents as they shall have reasonably requested for the purpose of enabling them to pass upon the matters referred to in this Section 6.

(h) Rate of Production. Since September 1, 1974 the operations of the Plant to and including the Closing Date have been at an annual rate of not less than 29,000 tons per year of Product. Seller knows of no reason why the Plant is not capable of continuing production at the rate of 29,000 tons of Product per year.

(i) Certified Resolution. There shall have been delivered to Purchaser a copy, certified by the Secretary or an Assistant Secretary of Seller, of all resolutions of the Board of Directors and Executive Committee of the Board of Directors of Seller approving this Agreement and the transactions contemplated hereby.

(j) Assignments and Releases. Seller shall have delivered to Purchaser all necessary consents obtained from other parties to the agreements and licenses included in the Assets transferred to Purchaser hereunder. This condition shall not apply to the rutil purchase agreement referred to in Section 2(n) or the agreements and commitments referred to in Section 3(h).

7. CONDITIONS TO OBLIGATIONS OF SELLER. The obligations of Seller under this Agreement are subject to the satisfaction at or prior to the Closing Date of the following conditions, but compliance with any such condition may be waived by Seller;

(a) Warranties and Agreements of Purchaser; Officers' Certificate. All representations and warranties of Purchaser contained in this Agreement shall be true and correct at and as of the Closing with the same effect as though such representations and warranties were made at and as of the Closing, and Purchaser shall have performed and complied with all the covenants and agreements and satisfied all the conditions required by this Agreement to be performed and complied with or satisfied by it at or prior to the Closing; and Seller shall have received a certificate (dated the Closing Date and signed by the President or a Vice President, and as to

financial matters by the Vice President-Finance of Purchaser, and stated to be to the best of their knowledge and belief and to be based on investigation deemed by them to be reasonable) to the foregoing effect.

(b) Opinion of Counsel for Purchaser. Seller shall have received from Richard Sexton, Vice President and General Counsel, an opinion or opinions, satisfactory to Seller, dated the Closing Date, with respect to:

(i) the due incorporation and valid existence of Purchaser and the qualification of Purchaser to transact business in Ohio at the time of the Closing,

(ii) the validity and sufficiency of all corporate proceedings taken by Purchaser to authorize the execution and delivery of this Agreement, the Assumption Agreement, the Supply Agreement, and the Promissory Note the performance by Purchaser of its obligations hereunder and thereunder and consummation of the transactions contemplated hereby and thereby, and the validity, enforceability and binding effect upon Purchaser of this Agreement, the Assumption Agreement, the Supply Agreement and the Promissory Note.

(iii) the execution and delivery of and the consummation of all transactions contemplated by this Agreement, the Assumption Agreement, the Supply Agreement and the Promissory Note will not result in any breach or violation of or default under any agreement or other instrument to which Purchaser is a party or by which it is bound.

(iv) the sufficiency of the instrument of assumption of liabilities referred to in Section 5(b), in the form tendered to Seller, to bind the Purchaser,

(v) pending or threatened litigation as contemplated by Section 7(c), and

(vi) such other matters related to this Agreement and the transactions contemplated hereby as Seller may reasonably request.

(c) Litigation. No action or proceeding seeking to prevent or invalidate the consummation of this Agreement shall have been commenced or threatened, and no investigation by any Governmental department or agency shall have been commenced or threatened that in the opinion of counsel is likely to eventuate in any such action or proceeding, and no other claim or demand shall be pending or threatened which, in the reasonable opinion of Seller, renders it impossible or inadvisable to consummate this Agreement.

(d) Assignments and Releases. All necessary consents to the Assignment to Purchaser shall have been obtained from other parties to the agreements and licenses included in the Assets transferred hereunder; Purchaser shall have executed and delivered to such other parties all assumption agreements required by such other parties as a condition of such assignment; and such other parties shall have released Seller from all further obligation under all such agreements and licenses (except the Seller's secrecy obligations under such agreement and licenses). This condition shall not apply to rutil purchase agreement referred to in Section 2(n) or agreements and commitments referred to in Section 3(h).

(e) Supply Agreement. The Parties have agreed upon the terms of the Supply Agreement and said agreement is executed by the Parties at the time of Closing.

(f) Additional Information. Prior to the Closing, Purchaser shall have furnished to Seller and its counsel such information, certificates and other documents as they shall have reasonably requested for the purpose of enabling them to pass upon the matters referred to in this Section 7.

8. REMEDIES. Except as provided in this Section 8, the respective representations, covenants and warranties of Seller and Purchaser set forth in this Agreement shall survive the Closing. No claim shall be made by either party against the other based upon such representations, covenants and warranties more than two (2) years after the Closing Date except claims arising from claims against such party by a third party.

Except Section 3(g) of this Agreement which shall be binding upon the Parties regardless of any termination or consummation of this Agreement, until the Closing has been consummated, the sole remedy of either party hereto for breach of any other aforesaid representations, covenants or warranties of the other party, which is not cured within a reasonable period of time after receiving notice from the other party or otherwise having actual knowledge as to any such breach and the nature thereof, shall be to elect not to proceed with the Closing, provided such first mentioned party may elect in writing to proceed with the Closing notwithstanding such breach and in which case shall be deemed to have waived such breach.

9. PATENT INFRINGEMENT. Seller agrees to indemnify and hold Purchaser harmless against any claim of patent infringement arising from changes made by Seller in the Machinery or Equipment at the Plant or the processes used in producing the Product as compared with the Machinery and Equipment delivered to Seller by DuPont and the processes used in producing the Product as started up at the Plant by DuPont, excepting only changes in Machinery, Equipment and processes made pursuant to subsequent licenses from DuPont.

10. INDEMNIFICATION. (a) Subject to the provisions of Section 8, Seller agrees to indemnify and hold Purchaser harmless against any and all liabilities, damages, losses, costs, claims or expenses (including reasonable attorneys' fees) whatsoever arising out of or resulting from any breach of warranty or representation

by the Seller or the non-performance of any covenant or obligation to be performed by Seller under this Agreement, or from any misrepresentation or omission from any Schedule, certificate, instrument or paper delivered or to be delivered by Seller to Purchaser pursuant to this Agreement or in connection with the transactions herein contemplated unless such breach, non-performance, performance, misrepresentation or omission has been waived by Purchaser. Section 9 constitutes Seller's sole indemnification on the subject of patent infringement and this Section 10 (a) shall not apply thereto.

(b) Subject to the provisions of Section 8, Purchaser agrees to indemnify and hold Seller harmless against any and all liabilities, damages, losses, costs, claims or expenses (including reasonable attorneys' fees) whatsoever arising out of or resulting from any breach of warranty or representation by the Purchaser or the non-performance of any covenant or obligation to be performed by Purchaser under this Agreement or the Assumption Agreement, or from any misrepresentation or omission from any Schedule, certificate, instrument or paper delivered or to be delivered by Purchaser to Seller pursuant to this Agreement or in connection with the transactions herein contemplated unless such breach, non-performance, performance, misrepresentation or omission has been waived by Seller.

(c) In the event any claim relating to the Assets is hereafter asserted against Seller or Purchaser, the party against whom the claim is asserted shall promptly notify the other in writing.

11. PAYMENT OF EXPENSES. Except as provided in Sections 3(f), 10 and 12 hereof, each of the Parties shall pay all expenses incurred by it, its officers, employees, attorneys, engineers, accountants and other agents and representatives, in connection with this Agreement and the performance of its obligations hereunder. All fees and disbursements of Ernst & Ernst shall be paid by Seller. All fees and

disbursements of Haskins & Sells shall be paid by Purchaser. This Section shall apply whether or not this Agreement is consummated.

12. FURTHER ASSURANCES. Seller at its expense will, from time to time upon the request of Purchaser execute and deliver to or upon the order of Purchaser such further instruments of conveyance, assignment and transfer, and take such other action as Purchaser may reasonably request, in order more effectively to convey, assign, transfer and deliver, any of the Assets intended to be conveyed, assigned, transferred, and delivered pursuant to this Agreement, or to assist in the collection or reduction to possession of any and all such property or to enable Purchaser to exercise and enjoy all rights and benefits of Seller with respect thereto.

For a period of one year from date of Closing, or for such longer period as the Parties may mutually agree, Purchaser agrees to do those things reasonably necessary to assist Seller in connection with Seller's conduct of any litigation, investigation or proceedings, relating to the Assets or the business thereof. For a period of one year from date of Closing, or for such longer period as the Parties may mutually agree, Seller agrees to do those things reasonably necessary to assist Purchaser in connection with Purchaser's conduct of any litigation, investigation or proceedings, relating to the Assets or the business thereof. Each party agrees to pay the other for expenses incurred in providing such assistance to such party.

13. RIGHT TO USE. Purchaser shall have a right to use, in sales of Product to Seller, existing stocks of packages, packaging materials, and the like, bearing trademarks and trade names of Seller. Except as herein provided, Purchaser shall have no right, without the express permission of Seller, to use any materials bearing trademarks or trade names of Seller.

14. AMENDMENT OR TERMINATION OF AGREEMENT BY MUTUAL CONSENT.

(a) Amendment. Seller and Purchaser, by mutual consent of their respective

boards of Directors, or officers authorized by such Boards, may amend or modify this Agreement by a written instrument executed by each of them.

(b) Termination. Anything herein or elsewhere to the contrary notwithstanding, this Agreement may be terminated at any time on or prior to the Closing Date by mutual consent of the Boards of Directors of Seller and Purchaser. In the event of such termination, neither party shall have any liability of any kind to the other party or to any officer, director or stockholder of such other party except as provided in Section 3(g).

15. PARTIES IN INTEREST. This Agreement shall be binding upon, and inure to the benefit of, the Parties and their respective successors and assigns; provided, however, that any assignment of this Agreement by either Party without the written consent of the other party shall be void. Nothing in this Agreement expressed or implied is intended or shall be construed to give to any person other than the Parties any right, remedy, or claim under or by reason of this Agreement.

16. NOTICES. All notices hereunder shall be in writing and shall be sufficiently given when received by Seller at:

The Sherwin-Williams Company  
101 Prospect Avenue, N.W.  
Cleveland, Ohio 44115

Atten: Corporate Secretary

or when received by Purchaser at:

SCM Corporation  
299 Park Avenue  
New York, New York 10017

Atten: Vice President and General Counsel

with a copy to Purchaser's Glidden-Durkee Division,  
900 Union Commerce Building  
Cleveland, Ohio 44115

Atten: Vice President and General Counsel

to such other address as any such party shall specify by written notice so given.

17. SCHEDULES. Schedules referred to in this Agreement are incorporated herein and made a part hereof as fully as if written herein.

18. APPLICABLE LAW. This Agreement shall be construed and enforced in accordance with the laws of the State of Ohio.

19. PRIOR AGREEMENTS SUPERSEDED. This Agreement constitutes the entire agreement between the parties and supersedes all prior agreements and understandings with respect to the matters covered hereby.

20. COUNTERPARTS. This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, Seller and Purchaser duly executed this Agreement and caused the same to be duly delivered on their behalf as of the date first above written.

test:

THE SHERWIN-WILLIAMS COMPANY

W. P. [Signature]  
(Corporate Seal) Secretary

By William C. Fine

Attest:

SCM CORPORATION

Arthur J. Mannion, Jr.  
(Corporate Seal) Asst. Sec'y

By Jeff Hall  
Sr. Vice President

TOTAL DEED DESCRIPTION

SHERWIN-WILLIAMS -- BARIUM CARBONATE PLANT

ISSUED

AUG 31 1966

GLAUS, PYLE & SCHOMER  
Architect and Consulting Engineers

Situated in the Township of Ashtabula, County of Ashtabula and State of Ohio and known as being part of Lot Nos. 4, 5, 8 and 9 of the Erie Tract and Lot Nos. 2, 3, 6 and 10 of the Old Survey and more fully described as follows:

Beginning at the intersection of the centerline of Middle Road (County Road No. 400, 60' R/W) and the centerline of Cook Road (County Road No. 403, 36' R/W); thence S.  $0^{\circ} 33' 17''$  W. a distance of 1,993.06 feet along the centerline of Cook Rd. to a point in the northerly right of way of The New York Central Railroad Company; thence S.  $69^{\circ} 52' 14''$  W. a distance of 451.32 feet along the northerly right of way of The New York Central Railroad Company to a point; thence S.  $0^{\circ} 32' 14''$  W. a distance of 5.34 feet along the easterly right of way of The New York Central Railroad Company to a point; thence S.  $69^{\circ} 52' 14''$  W. a distance of 3,167.27 feet along the northerly right of way of The New York Central Railroad Company to a point; thence N.  $0^{\circ} 44' 11''$  E. a distance of 363.45 feet to a point in the original centerline of Middle Rd. (C.R. No. 400, original 40' R/W); thence N.  $50^{\circ} 23' 11''$  E. a distance of 1,031.88 feet along the original centerline of Middle Rd. (C.R. No. 400, original 40' R/W) to a point; thence N.  $49^{\circ} 40' 00''$  E. a distance of 699.88 feet along the centerline of Middle Rd. (C.R. No. 400, 40' R/W) to a point; thence N.  $49^{\circ} 40' 00''$  E. a distance of 2,733.60 feet along the centerline of Middle Rd. (C.R. No. 400, 60' R/W) to the point of beginning and containing 91.1717 acres of which 87.6890 acres are in land in road.

Document "B"

C. G. BRETZ

ASHTABULA #42

ENGINEERING SERVICES

ENVIRONMENTAL CONTROL

CLEVELAND

MARCH 14, 1973

A. C. THOMAS

WASTEWATER SURVEY

ATTACHED IS THE COMPLETED FORM, WASTEWATER SURVEY OF THE PAINT AND INORGANIC PIGMENTS INDUSTRIES. INFORMATION IN THE FORM IS FROM THE RECENTLY REVISED CORPS OF ENGINEERS PERMIT APPLICATION.

PLEASE FEEL FREE TO CALL CONCERNING ANY QUESTIONS ABOUT THE FORM.

  
C. R. SADLER

CRS/CA

ATTACHMENTS

cc: GFW  
CGB

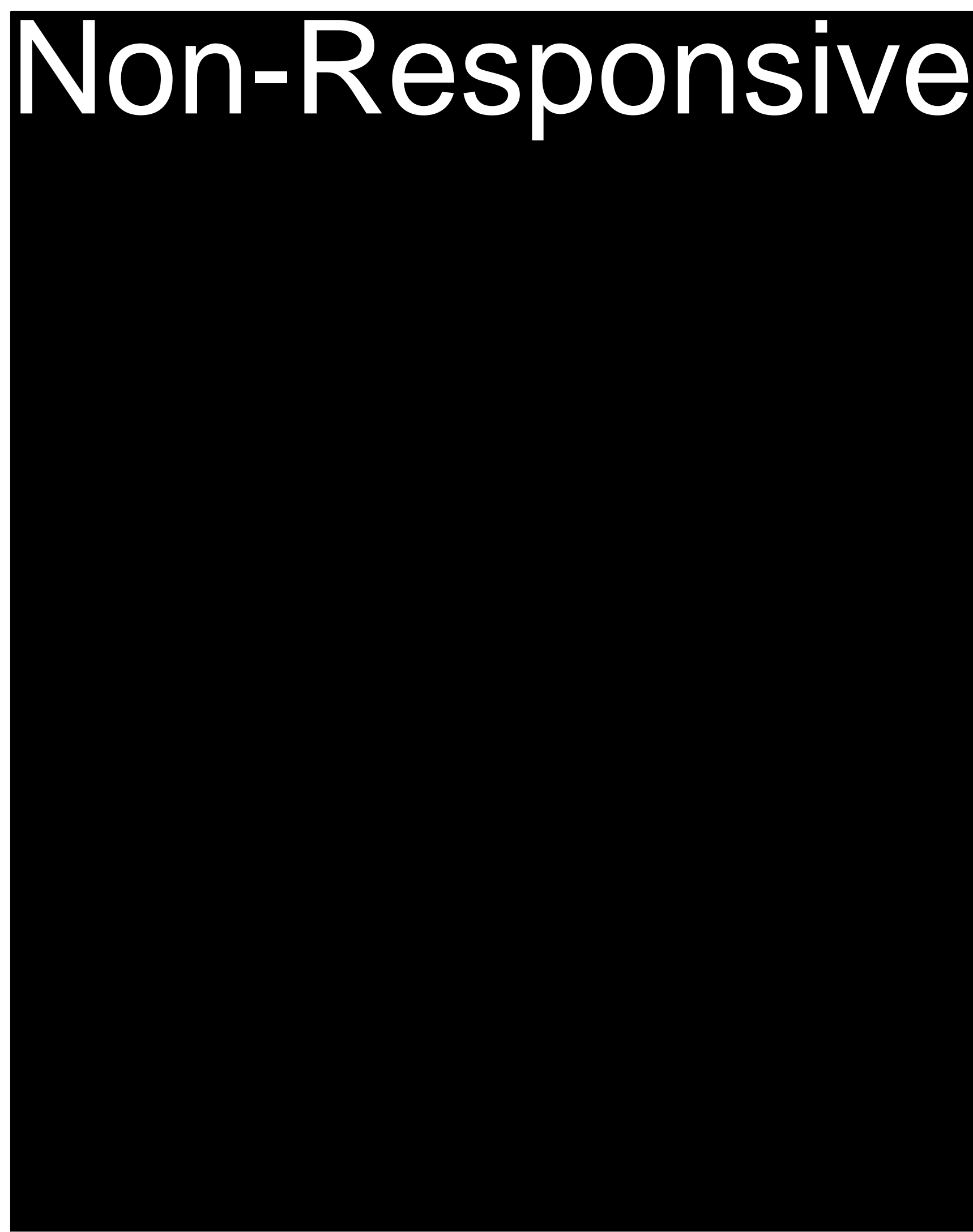
Document "C"

# Non-Responsive



# Non-Responsive

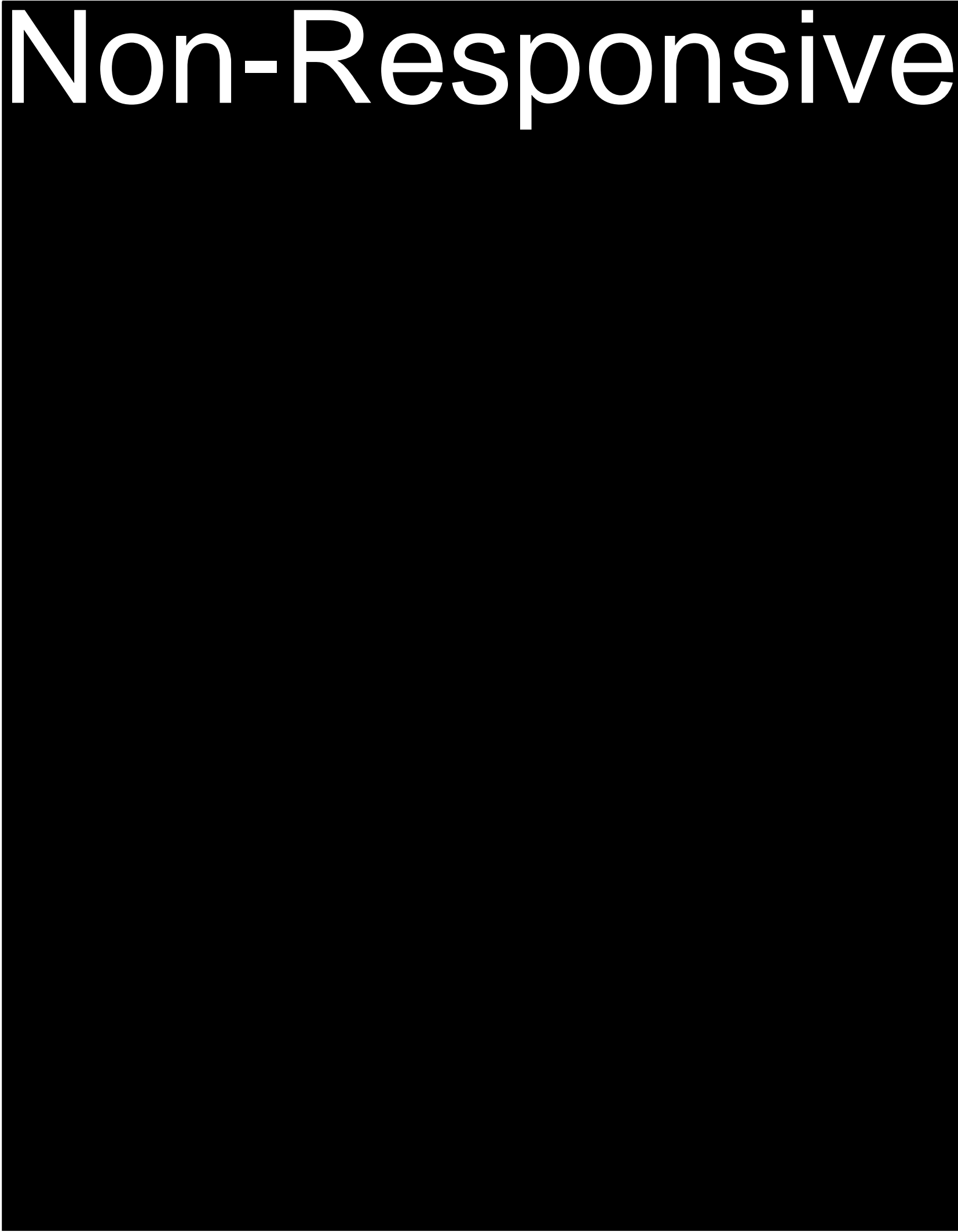
# Non-Responsive



Non-Responsive

# Non-Responsive

# Non-Responsive



Non-Responsive

July 21, 1972

George A. Clark, Esquire  
Roetsel & Andrews  
One Cascade Plaza - 20th Floor  
Akron, Ohio 44308

Russell E. Lesure, Esquire  
Baker, Hostetler & Patterson  
1956 Union Commerce Building  
Cleveland, Ohio 44115

Joseph G. Emeraldi, Esquire  
Diamond Shamrock Corporation  
300 Union Commerce Building  
Cleveland, Ohio 44115

E. Terry Warren, Esquire  
Warren & Young  
P. O. Box 278  
Ashtabula, Ohio

Jerry D. Jordan, Esquire  
Vorys, Sater, Seymour & Pense  
52 E. Gay Street  
Columbus, Ohio 43215

Dear Sir:

Enclosed are copies of analyses submitted by The Shervin-Williams Company to the State of Ohio from August 7, 1969 through June 7, 1972. Of particular interest is the upstream pH. The analyses for pH for June and part of July are:

<u>Date</u>	<u>Upstream</u>	<u>Downstream</u>
6-6-72	7.59	8.30
6-16-72	5.51	6.11
6-22-72	7.16	7.71
6-27-72	6.35	6.64
7-3-72	6.91	8.0
7-10-72	6.50	6.50

These analyses are branches of Fields Brook that run through our property. These figures are the average of four composite samples taken upstream on each branch and four composite samples taken downstream on each branch.

Most analyses are essentially neutral, however, occasionally they are acidic. I am investigating whether this could react with our effluent and cause the odor and color complained about.

I am having an investigation of Fields Brook back to the head waters to see what could contribute to the state of Fields Brook as it enters our property.

Document "D"

Page 2  
July 21, 1972

Last week there was a report of sludge present in Fields Brook. Our plant manager reported that a small company called Plasti-Color was the source. This plant is located just downstream from our plant.

Our plant manager is contacting this company to advise them of the problem they are creating for both themselves and the seven companies that are involved with the Water Pollution Control Board.

Very truly yours,

CGBretz:blg

Enclosures



UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION V

1 NORTH WACKER DRIVE  
CHICAGO, ILLINOIS 60606

Ohio District Office  
21929 Lorain Road  
Fairview Park, O. 44126

ENGINEERING SERVICE  
ASHTABULA CHEMICALS

May 24, 1972

Mr. Charles R. Sadler  
Sherwin Williams Chemicals  
P. O. Box 310  
Ashtabula, Ohio 44004

Dear Mr. Sadler;

Enclosed please find the data from our sampling of your company in April 1971. I am very sorry these results were not sent long before this and I apologize for the delay.

The data indicate that your company's discharges are high in dissolved solids, chlorides, barium, strontium, iron, and titanium.

We would like to know of any improvements in your waste-water treatment system since April of last year, and any proposed plans that will eliminate or reduce the levels of the above contaminants.

Please reply in writing to this office no later than June 16, 1972.

Sincerely yours,

William L. West  
Director

Enclosure

cc: G.E. Wyman 5/24/72  
C.G. Bretz  
F.C. Augustus  
C.H. Gurd  
H.L. Berkowitz  
T.C. Miller

Document "E"

SHERWIN WILLIAMS METALS ANALY

S META

	Mercury µg/l	Arsenic µg/l	Lead µg/l	Cadmium µg/l	Iron µg/l	Copper µg/l	Chromium µg/l	Nickel µg/l	Zinc µg/l	Titanium	Barium µg/l	Strontium µg/l
Williams 4-21-71												
Abula R. 4-22-71												
No. 1												
Discharge outfall												
property,	<0.1	<6.0	<200	<20	3000	<40	<20	<60	<40	1090		

## 1661

NOVEMBER 17th - 1944

RESULTS - TATML MET

CD 96 SU 84 mvt.

[illegible][illegible][illegible][illegible]

5.12	36	10.1	<6.6	<200	<20	5300	<40	<20	400	1.400	<60	40	<60
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[illegible]

—	<0.1	<6.0	<2.0	<2.0	8.00	<4.0	<2.0	3.00	2.100	<6.0	<4.0	<6.0	<6.0
—	<0.1	<6.0	<2.0	<2.0	5.00	<4.0	<2.0	—	—	<6.0	<4.0	<6.0	<6.0
—	<0.1	*	<2.0	<2.0	9.00	<4.0	<2.0	1.500	0.3700	<6.0	<4.0	<6.0	<6.0

# State of Ohio

Address Reply to:

A. Hall  
Engineer-Secretary  
10 East Town Street  
P. O. Box 118  
Columbus, Ohio 43216



EMMETT W. ARNOLD, M.D.  
Chairman  
J. GORDON PELTIER  
Vice Chairman  
FRED E. MORR  
JOHN M. STACKHOUSE  
BARTON HOLL  
ROBERT B. HOLT

## Department of Health Water Pollution Control Board

Re: Ashtabula County  
Ashtabula Township  
WPC Certificate  
(Neutralization and Settling Facilities)

November 13, 1970

Sherwin-Williams Chemicals  
Div. of The Sherwin-Williams Company  
P. O. Box 310  
Ashtabula, Ohio 44004

Gentlemen:

Your water pollution control facility has been constructed and the final construction cost has been submitted to this office. Since no appeal has been received in this office with reference to issuance of your Water Pollution Control Certificate, in accordance with the provisions of Section 6111.31, Revised Code, Certificate No. 195 (WPC-3) is attached hereto.

Yours truly,

G. A. Hall  
Engineer-Secretary  
Water Pollution Control Board

GAH:mt

Enc.

Certified mail

WATER POLLUTION--STRONTIUM

Document "F"

STATE OF OHIO  
DEPARTMENT OF HEALTH  
WATER POLLUTION CONTROL BOARD

WATER POLLUTION CONTROL CERTIFICATE

(Sections 6111.01-6111.08, incl. & 6111.31-6111.38, incl., Ohio Revised Code)

Pursuant to the provisions of Section 6111.31, Revised Code, the Water Pollution Control Board hereby finds that certain machinery, equipment and property owned by Sherwin-Williams Chemicals  
Division of The Sherwin-Williams Company, and located at  
2900 Middle Road, Ashtabula 44004, Ashtabula, Ohio.  
Street Address City and Zone County  
Ashtabula County taxing district, which machinery, equipment and property is more particularly described in Application No. TE-70-218 for Water Pollution Control Certificate, is designed primarily for the control of pollution of the water, is suitable and reasonably adequate for such purpose and is intended for such purpose.

Therefore, for purposes of the tax exemptions provided by Sections 6111.34, 6111.35, and 6111.36, Revised Code, the Water Pollution Control Board hereby certifies that the total cost of the facility is \$ 126,663. The cost of that portion or part of the facility used exclusively for water pollution control is determined to be \$ 126,663, which amount is subject to review by audit.

This Water Pollution Control Certificate is issued this 13th day of November, 1970, and is effective as of the 13th day of May, 1970.

CERTIFICATE NUMBER 195.

E. C. Carroll, Jr.  
Chairman, Water Pollution Control Board

# State of Ohio

Address Reply to:

A. Hall  
Engineer-Secretary  
100 East Town Street  
P. O. Box 118  
Columbus, Ohio 43216



EMMETT W. ARNOLD, M.D.  
Chairman  
J. GORDON PELTIER  
Vice Chairman  
FRED E. MORR  
JOHN M. STACKHOUSE  
BARTON HOLL  
ROBERT B. HOLT

## Department of Health Water Pollution Control Board

Re: Ashtabula County  
Ashtabula Township  
Appl. for WPC Certificate  
(Neutralization and Settling Facilities)

October 28, 1970

OCT 29 1970

Sherwin-Williams Chemicals  
Div. of The Sherwin-Williams Company  
P. O. Box 310  
Ashtabula, Ohio 44004

Gentlemen:

Pursuant to the provisions of Chapter 6111, Revised Code, you are hereby notified that at its meeting on October 13, 1970, the Ohio Water Pollution Control Board determined that the application for an industrial water pollution control certificate filed with said Board by Sherwin-Williams Chemicals, Division of The Sherwin-Williams Company, 2900 Middle Road, Ashtabula, Ohio, and being Application TE-70-226, should be allowed. The Board determined that the effective date of said certificate should be March 5, 1968.

Yours truly,

*E. W. Arnold, M.D.*

E. W. Arnold, M.D., Chairman  
Water Pollution Control Board

Certified mail

10-27-70  
A.L.P.  
G.S.  
F.L.C.

The Sherwin-Williams Company  
Ashtabula Strontium (Barium)  
Water Pollution Control Facility  
Ashtabula, Ohio

Item 5. Narrative Statement. Previously submitted when "Application For Permit To Discharge Sewage, Industrial Wastes Or Other Wastes Into Waters Of The State" was made under letter of transmittal dated December 4, 1967. Permit No. 2106 issued January 26, 1968, renewed June 6, 1968 under 2106.1, and renewed June 11, 1969 under 2106.2.

E X H I B I T    A

Waste water from the plant will amount to approximately 340 gallons per minute. This will flow at a single point into Fields Brook on Middle Road.

About 90 gallons of waste water per minute will flow from the process washing system directly into the waste water treating system. The treatment will consist of iron sulfate and lime followed by the addition of a commercial flocculating agent. It is then pumped to an overhead flume where it is added to about 260 gallons per minute of water used for cooling and pump seal water. This water will not necessarily be different in chemical content than when received into the plant.

All the water then flows to a triple basin settling pond where the precipitated solids settle out. The clear effluent overflows into Fields Brook.

The effluence should be clear with a maximum temperature of 80° to 90° during summer months. The pH will be controlled at about 8.5.

An automatic analysis system will analyze and record on a continuous basis the following conditions:

1. Turbidity
2. Conductivity
3. pH
4. Temperature
5. Dissolved oxygen

The Sherwin-Williams Company  
100 Middle Road  
Ashtabula, Ohio

# State of Ohio

Address Reply to:

G. A. Hall  
Engineer-Secretary  
150 East Town Street  
P. O. Box 118  
Columbus, Ohio 43216



EMMETT W. ARNOLD, M.D.  
Chairman  
J. GORDON PELTIER  
Vice Chairman  
FRED E. MORR  
JOHN M. STACKHOUSE  
BARTON HOLL  
ROBERT B. HOLT

## Department of Health Water Pollution Control Board

Re: Ashtabula County  
Ashtabula Township  
WPC Certificate  
(Neutralization and Settling Facilities)

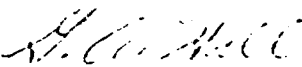
November 13, 1970

Sherwin-Williams Chemicals  
Div. of The Sherwin-Williams Company  
P. O. Box 310  
Ashtabula, Ohio 44004

Gentlemen:

Your water pollution control facility has been constructed and the final construction cost has been submitted to this office. Since no appeal has been received in this office with reference to issuance of your Water Pollution Control Certificate, in accordance with the provisions of Section 6111.31, Revised Code, Certificate No. 196 (WPC-3) is attached hereto.

Yours truly,

  
G. A. Hall  
Engineer-Secretary  
Water Pollution Control Board

GAH:mt

Enc.

Certified mail

Document "G"

STATE OF OHIO  
DEPARTMENT OF HEALTH  
WATER POLLUTION CONTROL BOARD

WATER POLLUTION CONTROL CERTIFICATE

(Sections 6111.01-6111.08, incl. & 6111.31-6111.38, incl., Ohio Revised Code)

Pursuant to the provisions of Section 6111.31, Revised Code, the Water Pollution Control Board hereby finds that certain machinery, equipment and property  
Sherwin-Williams Chemicals  
owned by Division of The Sherwin-Williams Company, and located at  
2900 Middle Road, Ashtabula 44004, Ashtabula, Ohio,  
Street Address City and Zone County  
Ashtabula County taxing district, which machinery, equipment and property is more particularly described in Application No. TE-70-226 for Water Pollution Control Certificate, is designed primarily for the control of pollution of the water, is suitable and reasonably adequate for such purpose and is intended for such purpose.

Therefore, for purposes of the tax exemptions provided by Sections 6111.34, 6111.35, and 6111.36, Revised Code, the Water Pollution Control Board hereby certifies that the total cost of the facility is \$ 672,150. The cost of that portion or part of the facility used exclusively for water pollution control is determined to be \$ 672,150, which amount is subject to review by audit.

This Water Pollution Control Certificate is issued this 13th day of November, 1970, and is effective as of the 5th day of March, 1968.

CERTIFICATE NUMBER 196.

E. W. Amundson  
Chairman, Water Pollution Control Board

July 16, 1970

Ohio Water Pollution Control Board  
P. O. Box 118  
Columbus, Ohio 43216

Re: Application for Water Pollution Control Certificate

Gentlemen:

Enclosed is the application, together with required attachments, of The Sherwin-Williams Company for certification as a Water Pollution Control Facility of certain machinery and equipment located at its Ashtabula Chemical Plant (Titanium Dioxide) in Ashtabula, Ohio.

We trust that the enclosed materials will provide the Water Pollution Control Board with sufficient information to take early and favorable action on the application. However, should additional information be required, please feel free to contact this office.

Thank you in advance for your cooperation in this matter.

Very truly yours,

THE SHERWIN-WILLIAMS COMPANY

W. P. Inman

WPI:RLK:cmz

Enclosures

STATE OF OHIO  
DEPARTMENT OF HEALTH  
WATER POLLUTION CONTROL BOARD

APPLICATION FOR WATER POLLUTION CONTROL CERTIFICATE  
(Sections 6111.01-6111.08, incl., and 6111.31 to 6111.38, incl., Ohio Revised Code)

Pursuant to the provisions of Section 6111.31, Revised Code, and Water Pollution Control Board Rule 2, The Sherwin-Williams Company hereby makes application for certification as a Water Pollution Control Facility of machinery, (Titanium Dioxide) equipment and property located at its Ashtabula Chemical Plant, 2900 Middle Rd., Ashtabula Ashtabula, Ohio, Ashtabula County Ashtabula County taxing district, and hereby submits the following documents and information:

1. A narrative statement which concisely explains the entire facility, its operations and purposes, including purposes other than industrial water pollution control. (file in duplicate)
2. A list, with itemized costs, of equipment, component parts and materials, which comprise the water pollution control facility. (file in duplicate)
3. Evidence of approval of plans.
4. The cost of the water pollution control facility to the applicant. (Indicate whether cost is actual or an estimation)

Total cost of facility \$ 672,150.00

Cost of portion claimed to be exempt \$ 672,150.00

5. Date of construction or aquisition of water pollution control facility Completed and in operation
6. Number and expiration date of permit issued by Ohio Water Pollution Control Board. Number 2366  
Expires December 1, 1970

The Sherwin-Williams Company

By	<u>Applicant</u>	<u>Assistant Secretary</u>
Date	<u>Signature and Title</u> <u>July 16, 1970</u>	

NOTE: This application is to be filed in duplicate with Water Pollution Control Board, P. O. Box 118, Columbus, Ohio 43216. Check carefully to be sure that adequate information or exhibits are submitted to satisfy all six items.

The Sherwin-Williams Company

Ashtabula Titanium Dioxide

Water Pollution Control Facility

Ashtabula, Ohio

Item 1. - Please see attached.

STATE OF OHIO  
DEPARTMENT OF TAXATION

68 EAST GAY STREET, COLUMBUS, OHIO 43215

PRESCRIBED  
TAX FORM APC 3

AIR POLLUTION CONTROL CERTIFICATE  
(Sections 5709.20 to 5709.27, inclusive, Ohio Revised Code)

Pursuant to the provisions of Section 5709.21, Revised Code, the Tax Commissioner hereby finds that

certain machinery, equipment and property owned by The Sherwin-Williams Company  
Ashtabula Chemical Plant

and located at 2900 Middle Road, Ashtabula  
STREET ADDRESS CITY AND ZONE

Ashtabula  
COUNTY, Ohio, Ashtabula County COUNTY taxing district,  
which machinery, equipment and property is more particularly described in Application for Air Pollution Control Certificate No. 1435, is designed primarily for the control of pollution of the air, is suitable and reasonably adequate for such purpose and is intended for such purpose.

Therefore, for purposes of the tax exemptions provided by Sections 5709.21 and 5709.25, Revised Code, the Tax Commissioner hereby certifies that the total cost of the facility is \$ 573,235.34. The cost of that portion or part of the facility used exclusively for air pollution control is determined to be \$ 169,703.86, which amount is subject to review by audit.

This Air Pollution Control Certificate is issued this 4th day of November, 19 71,  
and is effective as of the 18th day of May, 19 70.

CERTIFICATE NUMBER 1352

*Robert J. Kuydar*

Tax Commissioner

AIR POLLUTION--STRONTIUM

Document "H"

STATE OF OHIO  
DEPARTMENT OF TAXATION  
68 EAST GAY STREET, COLUMBUS, OHIO 43215

PRESCRIBED BY THE  
TAX COMMISSIONER

AIR POLLUTION CONTROL CERTIFICATE  
(Sections 5709.20 to 5709.27, inclusive, Ohio Revised Code)

Pursuant to the provisions of Section 5709.21, Revised Code, the Tax Commissioner hereby finds that certain machinery, equipment and property owned by The Sherwin-Williams Company,  
Ashtabula Chemical Plant  
and located at 2900 Middle Road, Ashtabula  
STREET ADDRESS CITY AND ZONE

Ashtabula, Ohio Ashtabula County taxing district,  
COUNTY  
which machinery, equipment and property is more particularly described in Application for Air Pollution Control Certificate No. 1435, is designed primarily for the control of pollution of the air, is suitable and reasonably adequate for such purpose and is intended for such purpose.

Therefore, the Tax Commissioner hereby issues this Air Pollution Control Certificate, which will become effective as provided by Section 5709.21, Revised Code, and Tax Commissioner's Rule No. TX-3-01, for purposes of the tax exemptions provided by Section 5709.25 (A), (B) and (C), Revised Code.

This Air Pollution Control Certificate is issued this 30th day of June, 19 71.  
**The estimated amount approved being \$169,703.86.**

CERTIFICATE NUMBER 1352

*Robert J. Kosydar*

Tax Commissioner

NOTE: Upon the furnishing by the certificate holder of the date of the construction of the facilities and the final and actual cost figures, this certificate will be replaced by a certificate setting forth those facts.  
**Please furnish the following information regarding construction: date construction started, date construction completed and date facility placed in operation.**

May 13, 1970

Tax Commissioner  
Room 1005  
Ohio Departments Building  
Columbus 15, Ohio

Re: Application for Air Pollution Control Certificate

Dear Sir:

Enclosed is the application, together with required attachments, of The Sherwin-Williams Company for certification as an Air Pollution Control Facility of certain machinery and equipment located at its Ashtabula Chemical Plant in Ashtabula, Ohio.

We trust that the enclosed materials will provide you with sufficient information to take early and favorable action on the application. However, should additional information be required, please feel free to contact this office.

Thank you in advance for your cooperation in this matter.

Very truly yours,

THE SHERWIN-WILLIAMS COMPANY

W. P. Inman

WPI:RLK:cmz

Enclosures



STATE OF OHIO  
DEPARTMENT OF TAXATION

PRESCRIBED BY THE  
TAX COMMISSIONER

**APPLICATION FOR AIR POLLUTION CONTROL CERTIFICATE**  
(Sections 5709.20 to 5709.26, inclusive, Ohio Revised Code)

Pursuant to the provisions of Section 5709.21, Revised Code, and Tax Commissioner's Rule No. 312,

The Sherwin-Williams Company hereby makes application for certification as an Air  
Pollution Control Facility of machinery, equipment and property located at its Ashtabula Chemical Plant  
taxing district, and hereby submits the following documents and information:

1. A copy of the plans, specifications and drawings of the facility for which certification is requested.
2. A list of component parts and materials incorporated or to be incorporated in the facility and of all equipment acquired or to be acquired for purposes of pollution control.
3. The cost of the facility to the applicant. (Indicate whether cost is actual and final, or an approximation or estimation.)

Total cost of facility \$ 573,235.24

Cost of portion sought to be exempt \$ 169,703.86

(If cost is approximation or estimation, actual and final cost will be furnished within 90 days from date of completion of construction of the facility.)

4. Status of construction of facility at date of application. Completed and in operation  
(If not begun as of date of application, date of beginning will be furnished within 10 days from date of beginning of construction of the facility.)
5. Narrative statement which simply and completely explains the entire facility, its operation and purposes, including purposes other than industrial air pollution control.

The Sherwin-Williams Company  
APPLICANT

By Assistant Secretary  
SIGNATURE AND TITLE

Date May 13, 1970

NOTE: This application is to be prepared and filed in triplicate. Only one set of attachments need be filed and that to accompany original. File with Tax Commissioner, Room 1005, Ohio Departments Building, Columbus 15, Ohio.

**FOR USE OF THE OFFICE OF THE TAX COMMISSIONER ONLY**

APPLICATION NO. \_\_\_\_\_

FILED IN THE OFFICE OF THE TAX COMMISSIONER ON \_\_\_\_\_

DETERMINATION \_\_\_\_\_ CERTIFICATE NO. \_\_\_\_\_ DATE \_\_\_\_\_

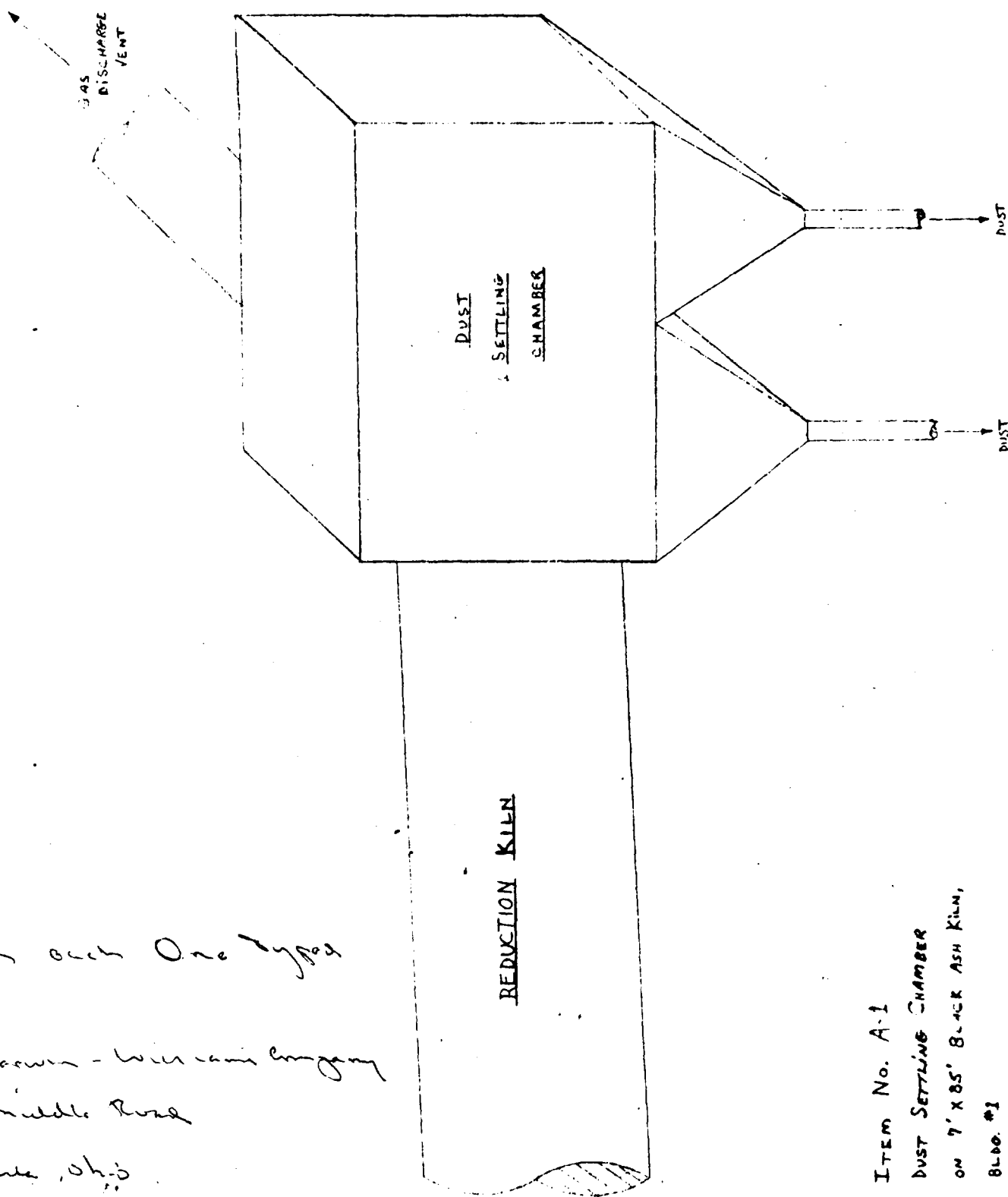
ORDER NO. \_\_\_\_\_ DATE \_\_\_\_\_

The Sherwin-Williams Company  
Ashtabula Strontium (Barium)  
Air Pollution Control Facility  
Ashtabula, Ohio

Item 1. Drawings A1, 4, 5, 6, 7, 8, 9, 10, attached

The Sherwin-Williams Company  
2900 Middle Road  
Ashtabula, Ohio

2003  
4-13-70

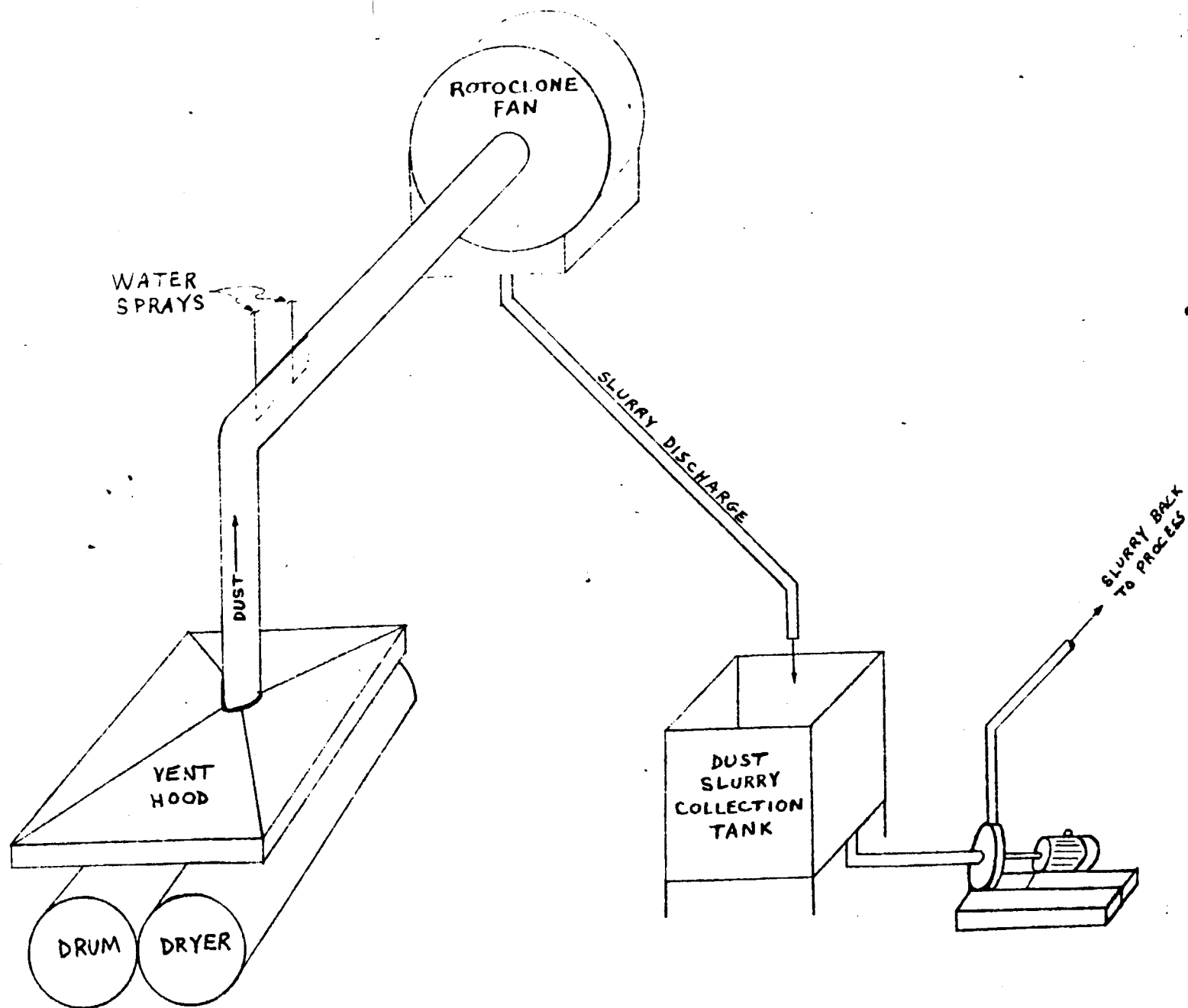


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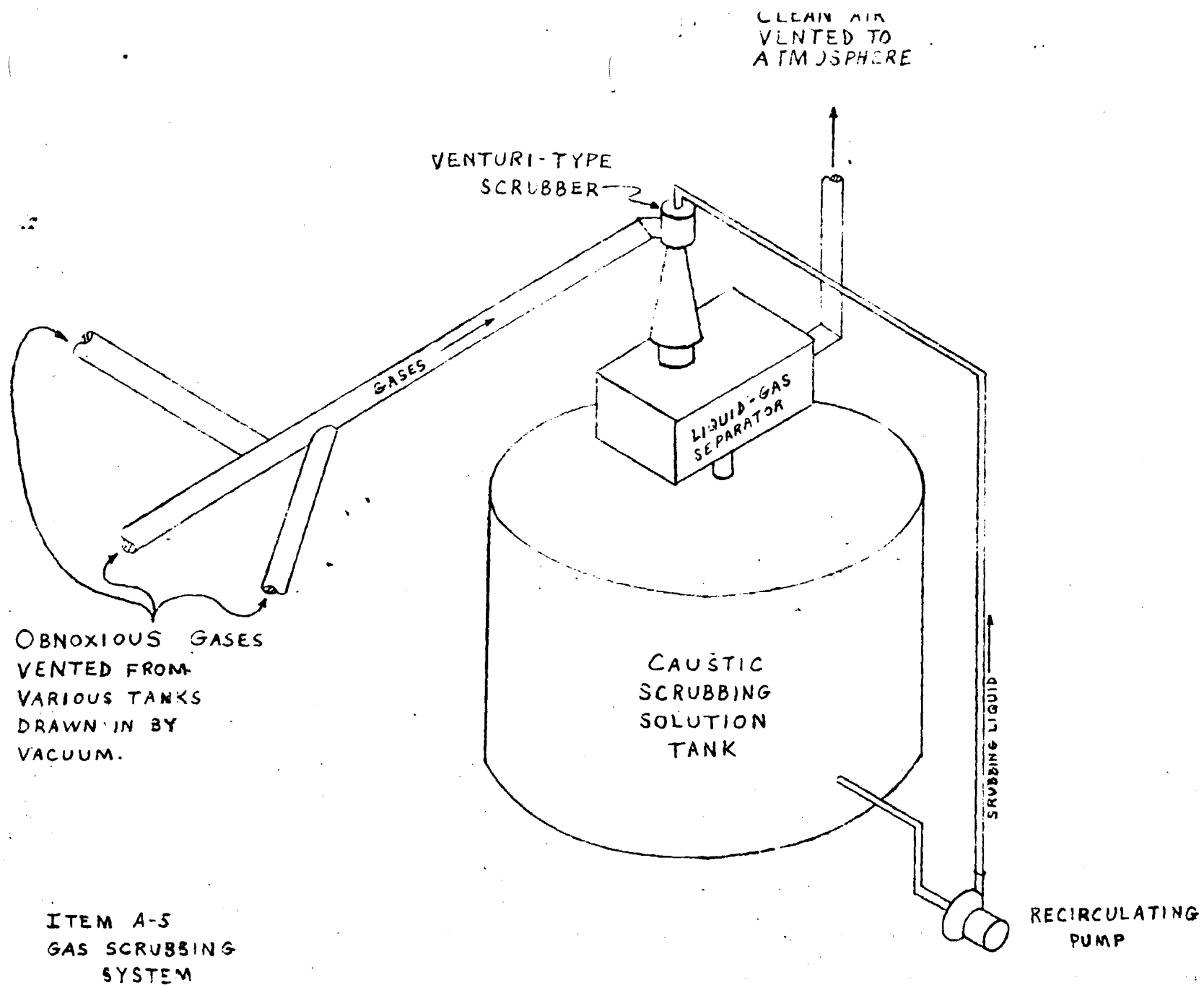
The Shaver - Williams Company  
2900 Middle Road

6 sets, ship

Item No. A-1  
DUST SETTLING CHAMBER  
ON 7' X 85' BLACK ASH KILN,  
BLDG. #1



ITEM A-4  
 DRUM DRYER  
 W/ DUST COLLECTING  
 EQUIPMENT



4-13-70

POLLUTION--TITANIUM

STATE OF OHIO  
DEPARTMENT OF TAXATION

68 EAST GAY STREET, COLUMBUS, OHIO 43215

PRESCRIBED  
TAX FORM APC 3

AIR POLLUTION CONTROL CERTIFICATE  
(Sections 5709.20 to 5709.27, inclusive, Ohio Revised Code)

Pursuant to the provisions of Section 5709.21, Revised Code, the Tax Commissioner hereby finds that certain machinery, equipment and property owned by The Sherwin-Williams Company  
Ashtabula Chemical Plant (Titanium Dioxide)  
and located at 2900 Middle Rd., Ashtabula  
STREET ADDRESS CITY AND ZONE

Ashtabula COUNTY, Ohio, Ashtabula County COUNTY taxing district,  
which machinery, equipment and property is more particularly described in Application for Air Pollution Control Certificate No. 1451, is designed primarily for the control of pollution of the air, is suitable and reasonably adequate for such purpose and is intended for such purpose.

Therefore, for purposes of the tax exemptions provided by Sections 5709.21 and 5709.25, Revised Code, the Tax Commissioner hereby certifies that the total cost of the facility is \$993,705.00. The cost of that portion or part of the facility used exclusively for air pollution control is determined to be \$993,705.00, which amount is subject to review by audit.

This Air Pollution Control Certificate is issued this 4th day of November, 19 71,  
and is effective as of the 30th day of June, 19 71.

CERTIFICATE NUMBER 1354.

*Robert J. Koydas*

Tax Commissioner

Document "I"

STATE OF OHIO  
DEPARTMENT OF TAXATION

68 EAST GAY STREET, COLUMBUS, OHIO 43215

PRESCRIBED BY THE  
TAX COMMISSIONER

AIR POLLUTION CONTROL CERTIFICATE  
(Sections 5709.20 to 5709.27, inclusive, Ohio Revised Code)

Pursuant to the provisions of Section 5709.21, Revised Code, the Tax Commissioner hereby finds that

certain machinery, equipment and property owned by The Sherwin-Williams Company,  
Ashtabula Chemical Plant (Titanium Dioxide)  
and located at 2900 Middle Rd. Ashtabula  
STREET ADDRESS CITY AND ZONE  
Ashtabula Ashtabula County Ashtabula  
COUNTY , Ohio \_\_\_\_\_ taxing district,  
which machinery, equipment and property is more particularly described in Application for Air Pollution  
Control Certificate No. 1451, is designed primarily for the control of pollution of the air, is suitable and  
reasonably adequate for such purpose and is intended for such purpose.

Therefore, the Tax Commissioner hereby issues this Air Pollution Control Certificate, which will be-  
come effective as provided by Section 5709.21, Revised Code, and Tax Commissioner's Rule No. TX-3-01,  
for purposes of the tax exemptions provided by Section 5709.25 (A), (B) and (C), Revised Code.

This Air Pollution Control Certificate is issued this 30th day of June, 19 71.  
**The Estimated amount approved being \$993,705.00.**

CERTIFICATE NUMBER 1354.

*Robert J. Kozlowski*

Tax Commissioner

NOTE: Upon the furnishing by the certificate holder of the date of the construction of the facilities and the  
final and actual cost figures, this certificate will be replaced by a certificate setting forth those facts.  
**Please furnish the following facts concerning construction: date construction  
started, date construction completed and date facility placed in operation.**

July 16, 1970

Tax Commissioner  
68 East Gay Street  
Columbus, Ohio 43215

Re: Application for Air Pollution Control Certificate

Dear Sir:

Enclosed is the application, together with required attachments, of The Sherwin-Williams Company for certification as an Air Pollution Control Facility of certain machinery and equipment located at its Ashtabula Chemical Plant (Titanium Dioxide operation) in Ashtabula, Ohio.

We trust that the enclosed materials will provide you with sufficient information to take early and favorable action on the application. However, should additional information be required, please feel free to contact this office.

Thank you in advance for your cooperation in this matter.

Very truly yours,

THE SHERWIN-WILLIAMS COMPANY

W. P. Izman

WPI:RLK:cms

Enclosures



STATE OF OHIO  
DEPARTMENT OF TAXATION  
68 EAST GAY STREET, COLUMBUS, OHIO 43215

PRESCRIBED BY THE  
TAX COMMISSIONER

APPLICATION FOR AIR POLLUTION CONTROL CERTIFICATE  
(Sections 5709.20 to 5709.27, inclusive, Ohio Revised Code)

Pursuant to the provisions of Section 5709.21, Revised Code, and Tax Commissioner's Rule No. TX-3-01

**The Sherwin-Williams Company**

APPLICANT'S NAME

hereby makes application for certification as an Air  
(Titanium Dioxide)

Pollution Control Facility of machinery, equipment and property located at **its Ashtabula Chemical Plant**

STREET ADDRESS

**8900 Middle Rd., Ashtabula, Ohio**

**Ashtabula**

, Ohio, **Ashtabula County**

CITY AND ZIP CODE

COUNTY

taxing district, and hereby submits the following documents and information:

1. A copy of the plans, specifications and drawings of the facility for which certification is requested.
2. A list of component parts and materials incorporated or to be incorporated in the facility and of all equipment acquired or to be acquired for purposes of pollution control.
3. The cost of the facility to the applicant. (Indicate whether cost is actual and final, or an approximation or estimation.)

Total cost of facility \$ **993,705.00**

Cost of portion sought to be exempt \$ **993,705.00**

(If cost is approximation or estimation, actual and final cost will be furnished within 90 days from date of completion of construction of the facility.)

4. Status of construction of facility at date of application. **Completed and in operation**

(If not begun as of date of application, date of beginning will be furnished within 10 days from date of beginning of construction of the facility.)

5. Narrative statement which simply and completely explains the entire facility, its operation and purposes, including purposes other than industrial air pollution control.

**The Sherwin-Williams Company**

APPLICANT

**Assistant  
Secretary**

By

SIGNATURE AND TITLE

Date **July 16, 1970**

NOTE: This application is to be prepared and filed in triplicate. Only one set of attachments need be filed and that to accompany original. File with Tax Commissioner, 68 East Gay Street, Columbus, Ohio, 43215.

FOR USE OF THE OFFICE OF THE TAX COMMISSIONER ONLY

APPLICATION NO. \_\_\_\_\_

FILED IN THE OFFICE OF THE TAX COMMISSIONER ON \_\_\_\_\_

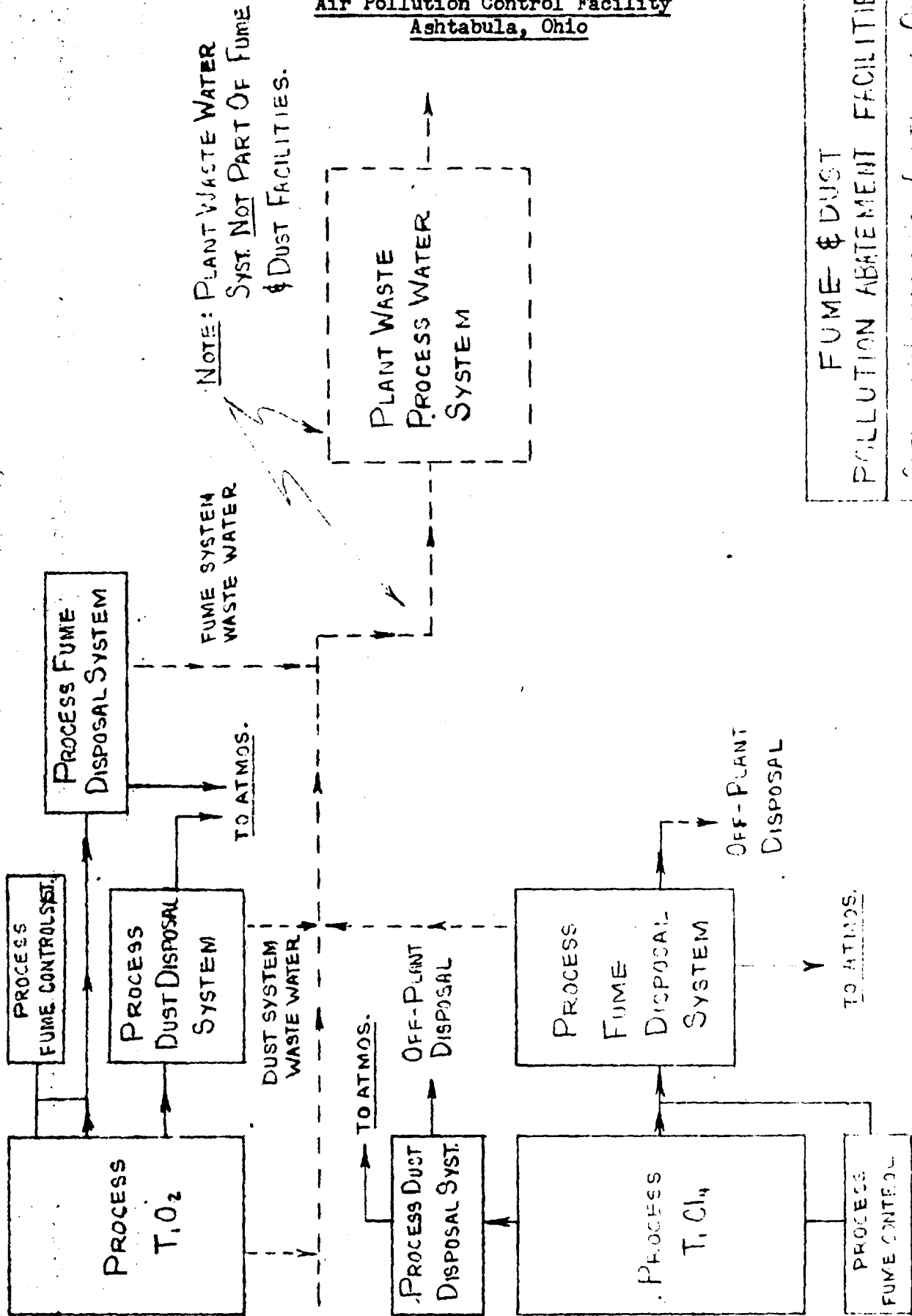
DETERMINATION \_\_\_\_\_ CERTIFICATE NO. \_\_\_\_\_ DATE \_\_\_\_\_

ORDER NO. \_\_\_\_\_ DATE \_\_\_\_\_

The Sherwin-Williams Company  
Ashtabula Titanium Dioxide  
Air Pollution Control Facility  
Ashtabula, Ohio

Item 1. - Please see attached.

FUME- & DUST POLLUTION ABATEMENT FACILITIES		
SHERMAN W. LAMARSON CO. FERTILIZER CO.		
TITANIUM DIOXIDE PLANT		
1960-1970	1970-1980	1980-1990



The Sherwin-Williams Company  
Ashtabula Titanium Dioxide  
Air Pollution Control Facility

Ashtabula, Ohio

Page 1 of 3

<u>Item 2</u>	<u>Equipment</u>	<u>Equipment</u>	<u>Amount</u> <u>Component</u> <u>Parts</u>	<u>Materials</u> <u>1)</u>	<u>Total</u>
Coalescing Pad		\$ 51.		\$ 99.	\$ 150.
Area Apportionable to Chlorine Squelch System		5,698.		762.	6,460.
Methane Treatment				2,255.	2,255.
Sly Dust Collector, Filter, Exhaust Fan and Slide Gate		1,985.	\$2,471.	334.	4,790.
Boura Hopper		385.	448.	32.	865.
Motor, 3 H.P. and Frame		140.	110.	5.	255.
Hot Cyclone Stack		1,905. 2,630.	2,320. 4,000.	150.	4,375. 6,630.
Boura Hopper		270.	448.	22.	740.
1 Scrubber and Process Piping		500.	348.	177.	1,025.
2 Fume Scrubbers, Foundations and Supports		650.	696.	44.	1,390.
Pot Seal		350.		440.	790.
Foundation and Supports		160.		75.	235.
Process Piping		30,070.		12,100.	42,170.
Fume Disposal Equipment, Valves Piping		251,019.	1,401.	30,630.	283,050.
Pipe Heating		845.	1,687.	13.	2,545.
Foundation and Supports		2,400.		500.	2,900.
Wiring		27,595.		10,335.	37,930.
Instrumentation, Piping and Wiring		11,760.	4,815.	1,620.	18,195.
Electric Heater		505.	630.		1,135.
Recoverable Water Sump		12,400.	1,997.	6,713.	21,110.
3 Pumps including Base, Guard Eductor, Strainer and Foundations		5,505.	3,825.	1,395.	10,725.
3 Motors, 15 H.P. and Frames		1,500.	945.	30.	2,475.
Fume Scrubber, Tail Gas		920.	1,078.	22.	2,020.
Sepocator including Reducer		1,030.	833.	492.	2,355.
Demister, Foundation and Supports		2,705.	1,776.	1,069.	5,550.

The Sherwin-Williams Company

Ashtabula Titanium Dioxide

Air Pollution Control Facility

Ashtabula, Ohio

Page 2 of 3

<u>Item 2</u>	<u>Equipment</u>	<u>Equipment</u>	<u>Amount</u> <u>Component</u> <u>Parts</u>	<u>Materials</u> <u>1)</u>	<u>Total</u>
Fume Disposal Equipment Continual					
Spray Tower, Foundation and Supports	\$ 7,735.	\$ 7,107.	\$ 903.	\$ 15,745.	
Stack, Fume and Cone	5,665.	5,122.	303.	11,090.	
Dilution Air Blower including Belts,					
Sheaves, Guard and Discharge	1,280.	1,175.	1,005.	3,460.	
Trench Pot	115.		170.	285.	
Spray Tower Foundation and Supports	6,785.		1,595.	8,380.	
Motor, 10 H.P. and Frame	365.	250.	5.	620.	
Caustic Tank including Insulation					
Foundation and Supports	11,035.	4,613.	2,122.	17,770.	
Acid Tank, Foundation and Supports	6,265.	1,425.	1,150.	8,840.	
Reaction and Purification Building					
rtionable to Fume Disposal					
ment	59,723.		20,227.	79,950.	
Electrical and Instrumentation					
Supporting Fume Disposal Equipment,					
Control Centers, Panel Boards and					
Relays	4,797.	1,845.	2,583.	9,225.	
Sulphur Dioxide Process Piping					
and Heating			1,950.	1,950.	
Apportionable part of Wet					
Treatment Blend Tank Vent					
Equipment Process Piping, Heating					
and Wiring	15,334.		2,091.	17,425.	
Blend Tank Vent Scrubber	2,226.	2,934.	30.	5,190.	
Blower, Fan and Drain	772.	923.	20.	1,715.	
Foundation and Supports	680.		225.	905.	
Motor, 10 H.P. and Frame	325.		210.	535.	
2 Heaters including covers	1,388.		1,477.	2,865.	
Foundation and Supports	995.		300.	1,295.	
Instrumentation		16,340.		16,340.	

The Sherwin-Williams Company  
Ashtabula Titanium Dioxide  
Air Pollution Control Facility

Ashtabula, Ohio

Page 3 of 3

Item 2	Equipment	Amount			Total
		Equipment	Component Parts	Materials 1)	
	Vacuum Filter Vent Equipment including Agitator, Motor, Vacuum Receiver, Pumps, Blower, Lint Screen, Exhaust Filter Fan, Foundations and Supports	\$ 7,396.	\$ 8,479.	\$ 525.	\$ 16,400.
	Finishing Manufacturing Structure Apportionable to Wet Scrubber Equipment	30,828.	10,632.	3,025.	44,485.
	Electrical and Instrumentation supporting above equipment	26,355.	2,586.	9,089.	38,030.
	Wet Scrubber Process Piping	28,252.	3,319.	6,149.	37,720.
	Sixty Foot Stack	5,925.	5,900.	200.	12,025.
	Foundation			2,460.	2,460.
	Wet Dust Scrubber	11,535.	22,385.	130.	34,050.
2	Wet Scrubber Pumps	1,715.	1,115.	145.	2,975.
2	Motors and Frames	1,625.	1,210.	30.	2,865.
	Tank	1,635.	2,560.	30.	4,225.
	Bag Collector, Filter and Slide Gate	990.	970.	80.	2,040.
3	Micro Scrubbing Barometric Condensers	8,655.	11,535.	90.	20,280.
3	Intercondensers	3,963.	3,942.	90.	7,995.
3	Plate Heat Exchangers	21,885.	25,965.	330.	48,180.
3	Cyclone, Wet including Foundations and Supports	12,138.	8,955.	2,052.	23,145.
2	Seal Tanks, Foundations and Supports	6,659.	4,816.	630.	12,105.
3	Pumps including Base	5,449.	5,448.	648.	11,545.
3	Motors including Frames	4,360.	2,890.	225.	7,475.
Total					<u>\$993,705.</u>

- 1) Materials include such major items as conduit, wiring, concrete, sewer tile, and all miscellaneous storeroom supplies needed to complete and put installation in operation.

The Sherwin-Williams Company  
Ashtabula Titanium Dioxide  
Air Pollution Control Facility  
Ashtabula, Ohio

Item 5. - Please see attached.

Sherwin-Williams Company  
Air Pollution Control Facility  
Ashtabula, Ohio  
TITANIUM DIOXIDE MANUFACTURING PROCESS

The Sherwin-Williams Company's Ashtabula, Ohio Titanium Dioxide manufacturing plant produces pigmentary grades of titanium dioxide ( $\text{TiO}_2$ ) primarily applicable for use in paint products. The process of manufacture involved is chemical in nature, utilizing the "chloride" route, i.e., converting the input raw material (a high  $\text{TiO}_2$  content naturally occurring ore) to titanium tetrachloride ( $\text{TiCl}_4$ ) as an intermediate by reaction with chlorine. Processing of the titanium tetrachloride ( $\text{TiCl}_4$ ) and subsequent controlled reaction of the  $\text{TiCl}_4$  with oxygen results in producing a basic  $\text{TiO}_2$  pigment of required purity and characteristics. In the reaction (oxidation) converting of the  $\text{TiCl}_4$  to  $\text{TiO}_2$ , the chlorine liberated is recovered and recycled for re-use in the  $\text{TiCl}_4$  manufacture reaction.

Subsequent processing of the initially produced  $\text{TiO}_2$  pigment is carried out as required to produce a finished pigment of specified characteristics.

The process is carried out in identified areas as to function, essentially physically separated, involving a number of process building structures both closed and open framed and typically of multi-story level. In addition, required support facilities such as utilities (steam production, water treatment, electrical, gas and water distribution), administrative, laboratory, maintenance shops, and storage of materials are provided as part of the plant. Facilities are provided in the plant identifiable as to providing for the abatement of air and water pollution.

Fume and dust pollution abatement facilities are outlined as follows:

1.  $\text{TiCl}_4$  Process: Process discharge gas stream entrained fume air pollutants are treated in the fume disposal system,

the pollutant contributive fraction separated out as an acidic waste for off plant contracted disposal - with the cleaned gas stream discharging to the atmosphere. Dust contributive solids - air streams are handled in dust separator systems and the dust solids disposed of off plant, with the air stream discharging to atmosphere.

2. TiO<sub>2</sub> Process: Process resulting fume pollutants are treated in the fume disposal system, the scrubbed gases discharging to atmosphere and the waste scrubbing media discharged to the plant waste water system. Dust contributive solids are separated out in the dust disposal system, the cleaned discharges going to atmosphere and the removed solids being disposed of to the waste water settling system.

STATE OF OHIO

Permit No. 2366

DEPARTMENT



OF HEALTH

Date Issued - February 11, 1970

Expiration Date - December 1, 1970

**WATER POLLUTION CONTROL BOARD**  
COLUMBUS

*This certifies that*

The Sherwin-Williams Company

Chemicals Division

Titanium Dioxide Plant

Ashtabula Township, Ashtabula County, Ohio

has been granted permission to discharge industrial wastes and sanitary sewage

into waters of the state, Field Brook - Ashtabula River, under authority of the Ohio Water Pollution Control Act,

Sections 6111.01 to 6111.08 Revised Code of Ohio, until the expiration date indicated hereon. Renewal of this permit is subject

to the conditions prescribed by the Water Pollution Control Board as contained in the letter transmitting this permit.

This permit is subject to modification or revocation.

Application for renewal, re-issuance or extension of this permit

shall be made not less than 30 days prior to the expiration date.

**WATER POLLUTION CONTROL BOARD**

E. W. Arnold, M.D.

CHAIRMAN

Document "J"

# State of Ohio

Address Reply to:

A. Hall  
Inser-Secretary  
East Town Street  
P. O. Box 118  
Columbus, Ohio 43216



EMMETT W. ARNOLD, M.D.  
Chairman  
J. GORDON PELTIER  
Vice Chairman  
FRED E. MORR  
JOHN M. STACKHOUSE  
BARTON HOLL  
ROBERT B. HOLT

## Department of Health Water Pollution Control Board

Re: Ashtabula County  
Ashtabula Township  
Ind. Wastes-Sew.

February 11, 1970

RECEIVED

FEB 12 1970

The Sherwin-Williams Company  
P. O. Box 310  
Ashtabula, Ohio 44004

THE SHERWIN-WILLIAMS CO.  
C. F. WYMAN

Attention Mr. G. F. Wyman, General Plant Manager

Gentlemen:

Enclosed is permit for the discharge of industrial wastes and sanitary sewage from your Titanium Dioxide Plant into the "waters of the state" pursuant to the provisions of the Water Pollution Control Act of Ohio.

You will note that this permit expires December 1, 1970. Renewal of this permit is contingent upon compliance with the following conditions:

1. Provide satisfactory maintenance and operation of existing facilities for the treatment and disposal of industrial wastes and sanitary sewage in accordance with approved Water Quality Standards.
2. Submit to the Division of Engineering, at regular monthly intervals, reports to include information regarding flow volumes and pertinent analytical data on the industrial waste discharges.
3. Promptly report to the Division of Engineering the occurrence and cause of any accidental or intermittent discharges of wastes which may have a deleterious effect on the receiving stream.
4. Submit to the Division of Engineering information pertaining to any plant expansion or process changes which may affect the character of the industrial waste discharges, together with a proposal for providing controls for such discharges so that there will be no deleterious effect on the receiving stream.

The Sherwin-Williams Co.  
Titanium Dioxide Plant

-2-

February 11, 1970

5. Continue program to further reduce chlorides and total solids.

Should you have any questions with respect to the above conditions, please notify us promptly.

Yours very truly,

*E. W. Arnold, M.D.*

E. W. Arnold, M.D., Chairman  
Water Pollution Control Board

Enc.-Permit 2366

Certified mail

cc: Health Commissioner  
cc: District Office

7-12-70: HLB

RFB

OWB

COB

CRS

3 2 71: Frank Perkins-CFE (no copy to me)

(Do Not Write in This Space)

Application No. \_\_\_\_\_

Fee Received \_\_\_\_\_

(Do Not Write in This Space)

Permit No. \_\_\_\_\_

Date of Board Action \_\_\_\_\_

**WATER POLLUTION CONTROL BOARD  
DEPARTMENT OF HEALTH  
STATE OF OHIO**

**RENEWAL APPLICATION FOR PERMIT TO DISCHARGE SEWAGE, INDUSTRIAL WASTES,  
OR OTHER WASTES INTO WATERS OF THE STATE**

*Please read carefully instructions on reverse side of this application before filling out.*

1. Name Sherwin-Williams Chemicals Division of The Sherwin-Williams Co.
2. Location 2900 Middle Road, Ashtabula Township, Ashtabula, Ohio
3. Type of Establishment (if not a political subdivision) manufacturer of titanium dioxide from rutile ore.
4. Type of Discharge industrial waste and sewage
5. Body of Water Receiving Discharge Field's Brook, Ashtabula Township  
(a) Next larger receiving tributary Ashtabula River
6. Is Discharge Treated? --- Yes X No \_\_\_\_\_
7. Attach supplemental information on compliance with renewal conditions stated in letter accompanying previous permit (No. 2366).

Any supplemental information submitted in connection with this application will be treated as confidential by the Board. Submission of this application does not constitute a waiver by the applicant of any rights or exemptions provided by law.

In accordance with the provisions of the Water Pollution Control Act, Sections 6111.01 to 6111.08 Revised Code of Ohio, and with the rules and regulations adopted by the Water Pollution Control Board in pursuance thereto, application hereby is made for a permit to discharge into the waters of the state sewage, industrial wastes, or other wastes, as described above, and in supplemental information hereto attached, all of which is made a part of this application.

Signature of authorized official G. F. Wyman

Title Plant Manager

Post Office Address Box #310, Ashtabula, Ohio, 44004

**VERIFICATION**

G. F. Wyman, being first duly sworn, says that he is the officer or person duly authorized to execute the foregoing application, and that the statements made and answers given therein, written or printed, are true as he verily believes.

Signature of Applicant G. F. Wyman

Sworn to and subscribed in my presence this 15th day of October, 19 70,  
at Ashtabula, County of Ashtabula And State of Ohio.

Signature of Officer \_\_\_\_\_

Official Title \_\_\_\_\_

## GENERAL INSTRUCTIONS

1. *Name of applicant* means municipality, political subdivision, public or private corporation, individual, partnership or other entity.
2. *Location* means municipality or township and county in Ohio.
3. *Type of Establishment* - The classification of the industrial firm, institution, or service entity from which the wastes in question result.
4. *Type of Discharge* means sewage, industrial wastes or other wastes (see Section 6111.01 (B), (C) and (D) R.C.). Mixtures should be so indicated.
5. Identity of the body of water to which discharge is made should be named. The next larger tributary, generally known, also should be named.
6. Treatment insofar as this paragraph is concerned constitutes alteration of polluting constituents of wastes discharged by the reduction of their effect on the receiving waters of the state. If the answer is Yes to the question, supplementary information should be submitted to clearly establish the effectiveness of such treatment. If the answer is No supplementary information should describe any program of proposed improvements for pollution abatement (see Item 7).
7. Submission of relevant information should be attached and titled *Exhibit A* if no other descriptive title is given. Such supplemental data should set forth the number and location of outlets if more than one is involved; details of present and proposed volume and strength (*variability*) of discharge to be disposed; normalcy with respect to present production and resultant pollution loads; and such other information as may be pertinent to the control, prevention and abatement of pollution.

October 13, 1970

Mr. G. A. Hall  
Engineer-Secretary  
Water Pollution Control Board  
Department of Health  
State of Ohio  
P. O. Box #118  
Columbus, Ohio, 43216

Re: Renewal Application for Permit to Discharge  
Sewage, Industrial Wastes, or Other Wastes  
into Waters of the State -  
Item 7

Dear Mr. Hall:

With reference to the above, this is to advise that we have  
and are continuing to comply with the conditions stated in  
the letter accompanying the previous permit, No. 2366.

In addition, we are participating in a joint study being  
conducted by Catalytic, Inc., to determine the feasibility  
of a joint treatment facility designed to handle waste ef-  
fluents from the several industries now discharging waste  
into Fields Brook.

If any further information is desired, please advise.

Yours very truly,

SHERWIN-WILLIAMS CHEMICALS

G. F. Wyman  
Plant Manager

  
GFW/am

bcc: HLB  
RGS  
FCG

RECEIVED

OCT 5 1970

THE SHERMAN-HEALING CO.

STATE OF OHIO  
DEPARTMENT OF HEALTH  
WATER POLLUTION CONTROL BOARD .

Address reply to:

G. A. Hall  
Engineer-Secretary  
P. O. Box 118  
Columbus, Ohio 43216

SPECIAL NOTICE

RENEWAL APPLICATION NECESSARY

Attention is called to the approaching expiration date of your permit for discharge to waters of the state. Renewal of permit is contingent upon compliance with conditions set forth in the letter accompanying the permit, a copy of which is attached.

Application for renewal of permit should be filed promptly. Two forms are enclosed, only one of which need be filed with the Board.

Under Item 7 of the form, explanation should be made concerning compliance with the conditions for renewal of the present permit. If for any reason the conditions have not been fulfilled a complete explanation should be provided.

G. A. Hall  
Engineer-Secretary  
Water Pollution Control Board

Enc.

10-16-70

FCG

RECEIVED

OCT 5 1970

THE SHERWIN-WILLIAMS COMPANY

Re: Ashtabula County  
Ashtabula Township  
Ind. Wastes-Sew.

February 11, 1970

The Sherwin-Williams Company  
P. O. Box 310  
Ashtabula, Ohio 44004

Attention Mr. G. F. Wyman, General Plant Manager

Gentlemen:

Enclosed is permit for the discharge of industrial wastes and sanitary sewage from your Titanium Dioxide Plant into the "waters of the state" pursuant to the provisions of the Water Pollution Control Act of Ohio.

You will note that this permit expires December 1, 1970. Renewal of this permit is contingent upon compliance with the following conditions:

1. Provide satisfactory maintenance and operation of existing facilities for the treatment and disposal of industrial wastes and sanitary sewage in accordance with approved Water Quality Standards.
2. Submit to the Division of Engineering, at regular monthly intervals, reports to include information regarding flow volumes and pertinent analytical data on the industrial waste discharges.
3. Promptly report to the Division of Engineering the occurrence and cause of any accidental or intermittent discharges of wastes which may have a deleterious effect on the receiving stream.
4. Submit to the Division of Engineering information pertaining to any plant expansion or process changes which may affect the character of the industrial waste discharges, together with a proposal for providing controls for such discharges so that there will be no deleterious effect on the receiving stream.

The Sherwin-Williams Co.  
Titanium Dioxide Plant

-2-

February 11, 1970

5. Continue program to further reduce chlorides and total solids.

Should you have any questions with respect to the above conditions, please notify us promptly.

Yours very truly,

E. W. Arnold, M.D., Chairman  
Water Pollution Control Board

Enc.-Permit 2366

Certified mail

cc: Health Commissioner  
cc: District Office

10-16-70: HLB  
RGS  
PCV

STATE OF OHIO



Permit No. 2106.3

Date Issued - August 20, 1970

Expiration Date - February 1, 1971

WATER POLLUTION CONTROL BOARD  
COLUMBUS

*This certifies that*

Sherwin-Williams Chemicals

Division of The Sherwin-Williams Co.

Ashtabula Township, Ashtabula County, Ohio

has been granted permission to discharge Industrial wastes

into waters of the state, Field Brook - Ashtabula River, under authority of the Ohio Water Pollution Control Act, Sections 6111.01 to 6111.08 Revised Code of Ohio, until the expiration date indicated hereon. Renewal of this permit is subject to the conditions prescribed by the Water Pollution Control Board as contained in the letter transmitting this permit.

This permit is subject to modification or revocation.

Application for renewal, re-issuance or extension of this permit

shall be made not less than 30 days prior to the expiration date.

WATER POLLUTION CONTROL BOARD

E. W. Arnold, M.D.

CHAIRMAN

Document "K"

# State of Ohio

Address Reply to:

G. A. Hall  
Engineer-Secretary  
10 East Town Street  
P. O. Box 118  
Columbus, Ohio 43216



EMMETT W. ARNOLD, M.D.  
Chairman  
J. GORDON PELTIER  
Vice Chairman  
FRED E. MORR  
JOHN M. STACKHOUSE  
BARTON HOLL  
ROBERT B. HOLT

## Department of Health Water Pollution Control Board

Re: Ashtabula County  
Ashtabula Township  
Industrial Wastes

August 20, 1970

Sherwin-Williams Chemicals  
Div. of The Sherwin-Williams Co.  
P. O. Box 310  
Ashtabula, Ohio 44004

RECEIVED

AUG 24 1970

THE SHERWIN-WILLIAMS CO.  
COLUMBUS, OHIO

Gentlemen:

As a result of Board action August 11, 1970, enclosed is renewal permit for the discharge of industrial wastes from your establishment into "waters of the state" pursuant to the provisions of the Water Pollution Control Act of Ohio.

You will note that this permit expires February 1, 1971. Renewal of this permit is contingent upon compliance with the following conditions:

1. Submit to the Division of Engineering a report presenting:
  - (a) The findings of the feasibility study on combined terminal treatment of industrial wastes as related to the existing plant;
  - (b) A decision to proceed or not to proceed with the combined treatment approach;
  - (c) If the decision is to proceed, the anticipated schedule for full implementation of the plan.
2. Provide satisfactory maintenance and operation of existing facilities for the treatment and disposal of industrial wastes in accordance with approved Water Quality Standards.
3. Submit to the Division of Engineering, at regular monthly intervals, reports to include information regarding flow volumes and pertinent analytical data on the industrial waste discharges.

Sherwin-Williams Chemicals  
Div. of The Sherwin-Williams Co.

-2-

August 20, 1970

4. Promptly report to the Division of Engineering the occurrence and cause of any accidental or intermittent discharges of wastes which may have a deleterious effect on the receiving stream.
5. Submit to the Division of Engineering information pertaining to any plant expansion or process changes which may affect the character of the industrial waste discharges, together with a proposal for providing controls for such discharges so that there will be no deleterious effect on the receiving stream.
6. Participate in the joint industrial sampling and analysis program, with the submission to the Division of Engineering of reports and an over-all evaluation by the joint committee.

Should your company decide against combined terminal treatment, detail plans for separate treatment will be required with all due haste, unless it can be demonstrated that the composition of your effluent is compatible with water quality criteria.

Should you have any questions with respect to the above conditions, please notify us promptly.

Yours very truly,

*E. W. Arnold, M.D.*

E. W. Arnold, M.D., Chairman  
Water Pollution Control Board

Enc.-Permit 2106.3

Certified mail

cc: Health Commissioner  
cc: District Office

HLB

RCS

EBM

WWS

C.R.S.

FCG (w/copy permit)

2 711. FROM BRUNN - CFE (w/copy permit)

August 26, 1970

E. W. Arnold, M.D., Chairman,  
Water Pollution Control Board  
State of Ohio  
P. O. Box #118  
Columbus, Ohio, 43216

Dear Dr. Arnold:

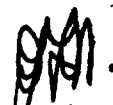
This will acknowledge your letter of August 20, 1970, under cover of which we received Permit No. 2106.3 granting permission to discharge industrial wastes into waters of the State.

Our operations at this plant site will be governed by the conditions set forth in your above dated letter.

Yours very truly,

SHERWIN-WILLIAMS CHEMICALS

O. F. Hyman  
Plant Manager

  
O.F./am

bcc: HLB  
HGS  
FCG  
CRS

cyB

ASHTABULA #42

PLANT MANAGER

COMP. ENVIRONMENTAL  
CONTROL DEPT.  
A. C. THOMAS

CLEVELAND

MAY 23, 1973

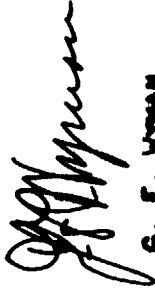
SURVEY FORM - GENERAL  
TECHNOLOGIES CORPORATION

TWO COMPLETED FORMS, PLANT WASTE ANALYSIS, EXPLAINED BY LEON PARKER,  
GENERAL TECHNOLOGIES CORPORATION, UNDER CONTRACT TO THE FEDERAL  
ENVIRONMENTAL PROTECTION AGENCY, ARE ATTACHED.

ONE COPY, FOR YOUR RECORDS, DOES NOT INCLUDE A COPY OF THE REVISED  
COMPS OF ENGINEERS APPLICATION FOR A DISCHARGE PERMIT. THE OTHER  
COPY FOR LEON PARKER INCLUDES, AS REQUESTED, A COPY OF THE COMPS  
OF ENGINEERS APPLICATION.

IT WAS MY UNDERSTANDING AT THE MEETING THAT YOU WOULD HANDLE THE  
SUBSEQUENT CONTACT AND FORWARDING OF COMPLETED FORM TO GENERAL  
TECHNOLOGIES CORPORATION.

IF WE CAN BE OF ANY FURTHER ASSISTANCE IN THIS MATTER, PLEASE FEEL  
FREE TO CALL ON US.



G. F. WYMAN

CFW/ca

ATTACHMENTS

cc: HLB  
CGB  
TCG  
CRS

Document "U"

PLANT WASTE ANALYSIS

COMPANY THE SHERWIN-WILLIAMS COMPANY

PLANT AGE < 5 YEARS

PLANT LOCATION ASHTABULA, OHIO

TONS/DAY 25,000 TONS/YR.

PRODUCT(S) <sup>(R)</sup> TITANIUM DIOXIDE PIGMENTS

DATE 5/22/73

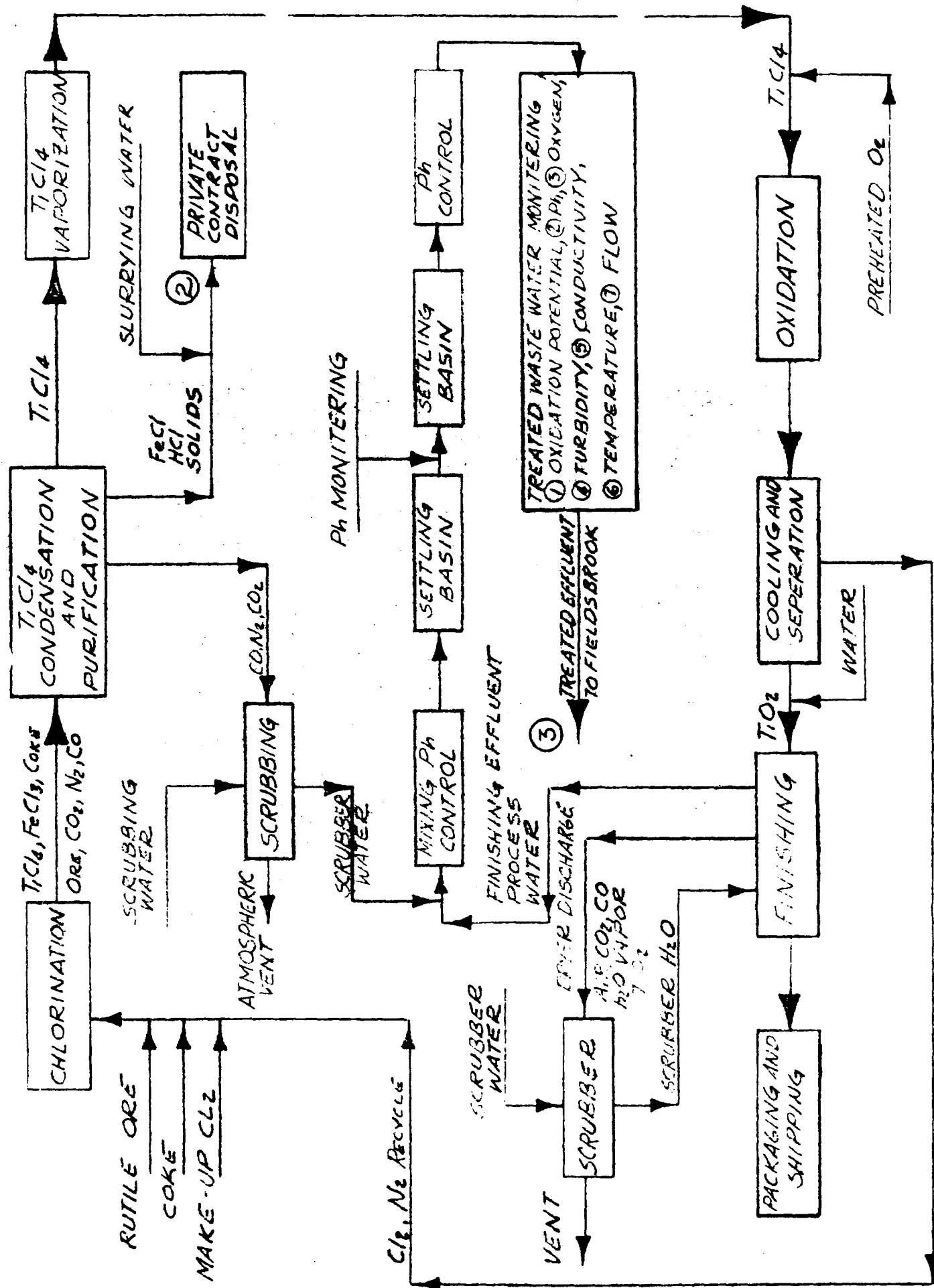
IS THIS A STANDARD PROCESS FACILITY?

YES X \* NO       

PROCESS FLOW DIAGRAM (SCHEMATIC)  
(Please include location of waste streams)

\*(CHLORIDE PROCESS LICENSED FROM THE  
DU PONT Co. TO THE SHERWIN-WILLIAMS Co.)

FLOW DIAGRAM ATTACHED.



RAW MATERIALS FOR PRODUCTMATERIALS

1. RUTILE ORE
2. CHLORINE
3. OXYGEN
4. COKE
5. SODIUM HYDROXIDE
6. SULFURIC ACID

ORIGIN AND PURITY COMMENTS

AUSTRALIA	- ± 95% TiO <sub>2</sub>		
REACTIVE METALS		COMMERCIALY PURE	
UNION CARBIDE		"	"
MOUNTINEER CARBON		"	"
DETREX CHEMICAL IND., INC.		"	"
DUPONT		"	"

STANDARD RAW WASTE LOADS

<u>WASTE PRODUCTS</u>	<u>PROCESS SOURCE</u>	<u>LBS/TON OF PRODUCTS</u>			
		<u>OPERATION</u>	<u>STARTUP</u>	<u>SHUTDOWN</u>	
		<u>AVE.</u>	<u>RANGE</u>	<u>AVE.</u>	<u>RANGE</u>
1. SLURRY	CHLORINE, ORE, COKE	170	-		
2. DISSOLVED SOLIDS	H <sub>2</sub> SO <sub>4</sub> , CL <sub>2</sub> (CHLORIDES) NaOH	375	310/410		
3. DISSOLVED SOLIDS	LAKE ERIE WATER				
4. SETTLEABLE SOLIDS (TiO <sub>2</sub> )	LIQUID/SOLIDS SEPARATION	38	35/40		
5. SETTLEABLE SOLIDS (WATER TREATMENT)	LAKE ERIE WATER	79	50/90		
6. SANITARY WASTE	SANITARY FACILITIES				

COMMENTS

\* PLANT OPERATES 7 DAYS PER WEEK, 24 HOURS PER DAY, ON A CONTINUOUS BASIS.

WATER INPUTS TO PLANT

<u>TYPE</u>	<u>QUANTITY, GPD</u>	<u>COMMENTS ON SOLIDS, MINERALS, TREATMENTS, ETC.</u>
RIVER	0	
LAKE	790,000	{ WATER IS CHLORINATED (SANITARY), CONVENTIONAL LIME/ALUM SOFTENING AND CLARIFICATION. ANALYSIS OF WATER IS PRESENTED ON PAGE 5A OF 14.
MUNICIPAL	30,000	
WELL	0	
OTHER		

WATER USAGE

<u>TYPE</u>	<u>TOTAL QUANTITY, GPD</u>	<u>% RECYCLED</u>
COOLING	320,000	50
PROCESS	340,000	
OTHER (SANITARY)	30,000	
OTHER (BOILER FEED)	130,000	
WASTE SOLIDS (SLURRY)	13,000 (1)	
AIR POLLUTION CONTROL	57,000	
EVAPORATION	130,000	
<u>COMMENTS</u>		

(1) SEE STREAM NO. 2, PAGE 4 OF 14, DISPOSAL BY PRIVATE CONTRACTOR.

EFFLUENTS FROM PROCESS AFTER TREATMENT

<u>STREAM NO.</u>	<u>SOURCE</u>	<u>GPD</u>
1. TREATED SANITARY WASTE	PRIVATE SANITARY TREATMENT	30,000
2. WASTE SOLIDS	PROCESS SLURRY	13,000
3. TREATED INDUSTRIAL WASTE WATER	PROCESS TOTAL COLLECTED	695,000

COMPOSITION OF EFFLUENT STREAMS AFTER TREATMENT

<u>Constituents*</u> <u>Present</u>	<u>Stream No. 1</u>		<u>No. 2 **</u>		<u>No. 3</u>		<u>No. 4</u>		<u>No. 5</u>	
	<u>AVE.</u>	<u>RANGE</u>	<u>AVE.</u>	<u>RANGE</u>	<u>AVE.</u>	<u>RANGE</u>	<u>AVE.</u>	<u>RANGE</u>	<u>AVE.</u>	<u>RANGE</u>
Tot. Suspended Solids PPM	20	9/50	-	-	6	<del>2</del> 11				
Tot. Dissolved Solids PPM			-	-	4176	<del>4590</del> 3990				
BOD 5 DAY PPM	17	8/72	-	-	< 10	< 10				
COD PPM			-	-	28	<del>&lt; 10</del> 55				
pH PH UNITS			-	-	7.1	<del>6.5</del> 8.0				
Temperature °F			-	-	74°	<del>54</del> 109				
% COKE			7.1	5.3/9.7						
DISSOLVED O <sub>2</sub> PPM	7.8	5/10.6	-	-						
% HCL			14	11/15						
% SOLUBLE TiO <sub>2</sub>			2.3	1.6/2.9						
% INSOLUBLE TiO <sub>2</sub>			1.1	0.5/2.0						
% SOLIDS			8.8	6.9/11.1						

\*SEE ATTACHED LIST ON NEXT PAGE FOR ADDITIONAL APPLICABLE CONSTITUENTS AND TESTS. USE BACK OF THIS SHEET IF MORE ROOM IS NEEDED.

\*\* PROCESS SLURRY CONTAINS IMPURITIES PRESENT IN THE RUTILE ORE; AL, V, ZR, SI, MN, FE WHICH ARE NOT DETERMINED ON A ROUTINE BASIS.

## ADDITIONAL ANALYSES

UNITS OF MEASUREMENT AS NOTED TEST PARAMETERS	LAKE ERIE <sup>(1)</sup> INTAKE WATER		EFFLUENT STREAMS		
			#1	#2	#3
TURBIDITY J.C.U.	69	28/100			10 < 5/10
COLOR Pt.Co. UNITS	22	10/40			5 < 5/5
CONDUCTIVITY SP.COND.	360	-			6570 -
ACIDITY (FREE)	-	-			- -
ACIDITY (TOTAL) PPM(2)	10	-			6 -
ALKALINITY (TOTAL) PPM	140	80/250			55 40/75
HARDNESS (TOTAL) PPM	116	-			97 -
HARDNESS (Ca)					
HALOGENS: Cl <sub>2</sub> PPM	< 0.1				< 0.1
Cl <sup>-</sup> PPM	75	50/125			1170 $\frac{900}{1300}$
F <sup>-</sup> PPM	0.3	0.2/0.4			1.16 $\frac{1.00}{1.40}$
SULFITE PPM	< 0.1	-			< 0.1 -
SULFATE PPM	25	15/45			392 $\frac{290}{575}$
PHOSPHATES: ORTHO PPM	< 0.4	-			< 0.4
META	-	-			-
TOTAL P PPM	0.08	-			0.05 $\frac{0.03}{0.07}$
NITROGEN NO <sub>3</sub> <sup>-</sup> PPM	0.08	-			1.2 $\frac{0.05}{2.8}$
NO <sub>2</sub> <sup>-</sup> PPM	0.01	-			0.1 < 0.1 $\frac{0.1}{0.1}$
O <sub>2</sub> DISSOLVED					
HEAVY METALS:					
IRON PPB(3)	1130	780/1400			270 $\frac{130}{300}$
COPPER PPB	13	12/14			25 $\frac{3}{32}$
CHROMIUM PPB	12	6/14			46 10/74
MANGANESE PPB	52	-			9 -
VANADIUM PPB	-	-			- -
ARSENIC PPB	23	18/26			30 25/30
MERCURY PPB	< 0.5	< 0.5			< 0.5 < 0.5
LEAD PPB	< 10	< 10			< 10 < 10

CORPS OF ENGINEER'S PERMIT NO. 000205-001

N.P.D.E.S. APPLICATION NUMBER  
OH 070 0X2 000205

- (1) TWO WATER INTAKE SOURCES FOR THE PLANT SITE. ONE FROM LAKE ERIE AND ONE FROM A MUNICIPAL SOURCE, POTABLE WATER FOR SANITARY PURPOSES. ANALYSIS FOR LAKE ERIE WATER IS ON THIS PAGE (5A OF 14) AND THE POTABLE WATER ANALYSIS IS ON THE ACCOMPANYING PAGE (5B OF 14).
- (2) PPM - PARTS PER MILLION.
- (3) PPB - PARTS PER BILLION

ADDITIONAL ANALYSES

TEST PARAMETERS	INTAKE (1) WATER	EFFLUENT STREAMS		
		#1	#2	#3
TURBIDITY (J.C.U.)	3			
COLOR PT.CO.SCALE	2			
CONDUCTIVITY SP.COND.	350			
ACIDITY (FREE)				
ACIDITY (TOTAL)				
ALKALINITY (TOTAL)				
HARDNESS (TOTAL)				
HARDNESS (Ca)				
HALOGENS: Cl <sub>2</sub>				
Cl <sup>-</sup>				
F <sup>-</sup> PPM (2)	1.4			
SULFITE PPM	0.8			
SULFATE PPM	5.2			
PHOSPHATES: ORTHO PPM	0.033			
META	-			
ELEMENTAL P PPM				
NITROGEN NO <sub>3</sub> <sup>-</sup> PPM	0.005			
NO <sub>2</sub> <sup>-</sup>	-			
O <sub>2</sub> DISSOLVED	-			
HEAVY METALS:				
IRON PPB (3)	60			
COPPER PPB	< 10			
CHROMIUM PPB	< 10			
MANGANESE PPB	< 10			
VANADIUM PPB	-			
ARSENIC PPB	< 100			
MERCURY PPB	< 0.5			
LEAD PPB	< 10			

CORPS OF ENGINEER'S PERMIT NO. 000205-001

N.P.D.E.S. APPLICATION NUMBER  
OH 070 0X2 000205

- (1) POTABLE WATER INTAKE FOR SANITARY PURPOSES.  
(2) PPM - PARTS PER MILLION.  
(3) PPB - PARTS PER BILLION.

WASTE TREATMENTS

STREAM NO. (Same as under previous Section)	TREATMENT METHOD(S)	FINAL STREAM DISPOSAL
1. TREATED SANITARY WASTE	PRIVATE SANITARY TREATMENT MEETS STATE REQUIREMENTS	TO FIELDS BROOK TO ASHTA- BULA RIVER TO LAKE ERIE
2. WASTE SOLIDS	PRIVATE CONTRACT DISPOSAL	OFF-SITE DISPOSAL BY PRIVATE CONTRACTOR
3. TREATED INDUSTRIAL WASTE WATER	(1) SEE DESCRIPTION BELOW	TO FIELDS BROOK TO ASHTA- BULA RIVER TO LAKE ERIE

ANY SOLID WASTES ? YESWHAT ARE THEY ? SEE ITEMS 4 & 5, WASTE PRODUCTS, PAGE 2 OF 14TREATMENT INVOLVED PRIVATE CONTRACT DISPOSALQUANTITY, LB/TON OF PRODUCT 170 LB./TON PER YEARPRESENT DISPOSTION PRIVATE CONTRACT DISPOSAL

PROCESS EFFLUENTS FROM THE TIDOX<sup>(R)</sup> (TITANIUM DIOXIDE) OPERATION IN ACID BRICK TRENCHES ARE ROUTED TO A CENTRAL MIXING BASIN. SODIUM HYDROXIDE IS ADDED TO THE AGITATED MIXING BASIN TO NEUTRALIZE. OTHER DISCHARGES ARE COLLECTED IN DITCHES AND PUMPED TO THE SAME AGITATED BASIN FOR NEUTRALIZATION. NEUTRALIZED WATER OVERFLOWS THE MIXING BASIN INTO THE FIRST IN A SERIES OF TWO SETTLING BASINS (800,000 GALLONS EACH). THE EFFLUENT FROM THE FIRST POND FLOWS INTO THE SECOND POND WITH MONITORED PH. SEDIMENTATION OCCURS IN THE TWO PONDS IN SERIES. OUTFALL, FROM THE SECOND POND IN SERIES, IS INTO FIELD'S BROOK WITH PH MONITORING AND CONTROL AS NECESSARY. AT THE OUTFALL, AUTOMATED INSTRUMENTS CONTINUOUSLY MONITOR PH, FLOW, TEMPERATURE, DISSOLVED OXYGEN, TURBIDITY, AND CONDUCTIVITY. AT EIGHT HOUR INTERVALS, LABORATORY PERSONNEL ANALYZE FOR SUSPENDED SOLIDS AND PH AS A CHECK.

PRESENT TREATMENT INFORMATION

<u>METHOD</u>	<u>WHEN INSTALLED</u>	<u>CAPITAL COSTS</u>	<u>OPERATING COSTS</u>	<u>STREAMS TREATED</u>
1. SETTLING SEDIMENTATION	1969 1971	\$236,460 191,077		(3)
2. PH - FEED FOREWARD/ BACK CONTROL	1969 1971	5,270 24,499		(3)
3. EQUALIZATION WITH AGITATED BASIN	1971	44,424		(3)
4. CONTRACT DISPOSAL COLLECTION SYSTEM	1969	249,645		(2)
TOTAL		\$932,150		
1. AIR POLLUTION CONTROL	1969	\$993,705		

PERFORMANCE OF TREATMENT METHODS

<u>METHOD</u>	<u>QUALITATIVE RATING</u>	<u>WASTE REDUCTION* ACCOMPLISHED</u>
1. SERIES SEDIMENTATION PONDS WITH WAVE BREAKERS	EXCELLENT	REDUCES SETTLEABLE SOLIDS BY 99%
2. PH - FEED FOREWARD/ BACK CONTROL	EXCELLENT. WASTE WATER STREAMS TO SYSTEM RANGE FROM 2 TO 9 PH. OUTFALL TREATED WASTE AVERAGES PH 7.1	
3. EQUALIZATION WITH AGITATED BASIN	Good	

\*% REDUCTION IN WASTE LOAD AS MEASURED BY SUCH QUANTITIES AS TOTAL SUSPENDED OR DISSOLVED SOLIDS, CHLORIDES, SULFATES, pH, BOD, ORGANICS, ETC.

FUTURE TREATMENT PLANS

<u>METHODS</u>	<u>ESTIMATED INSTALLATION TIME</u>	<u>ESTIMATED COST</u>	<u>ESTIMATED PERFORMANCE</u>
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1. TREATMENT METHODS FOR THE FUTURE PLANNED EXPANSION HAVE NOT BEEN FULLY CONCEPTUALIZED OR ESTIMATED.

- 2.

- 3.

GENERAL

1. DO YOU FORESEE ANY CHANGES IN YOUR WASTE LOAD IN THE NEXT FEW YEARS (RAW MATERIAL OR PROCESS CHANGES, PRODUCT PURITY, ETC.) ?

EXPANSION OF THE FACILITIES IN THE IMMEDIATE FUTURE BY UTILIZING ILMENITE ORE INSTEAD OF RUTILE ORE WILL INCREASE THE SOLIDS EFFLUENT (IRON OXIDE) FROM THE TITANIUM DIOXIDE PROCESS. ESSENTIALLY THE DIFFERENCE WILL BE THE RESULTS OF TWO FACTORS; (1) CHANGE OF ORE, RUTILE ORE CONTAINS 40 TO 50% MORE TITANIUM DIOXIDE THAN DOES ILMENITE ORE, AND (2) PROJECTED INCREASED ANNUAL CAPACITY WILL RESULT IN INCREASED EFFLUENTS.

2. CAN THE PRESENT MANUFACTURING PROCESS BE MODIFIED OR CHANGED TO SIGNIFICANTLY REDUCE EFFLUENT WASTE LOADS ?

NOT AT THE PRESENT STATE OF THE TECHNOLOGY. EFFLUENT WASTE LOADS ARE A FUNCTION OF BOTH RAW MATERIAL IMPURITIES AND PIGMENT TREATMENT.

3. DO "GOOD HOUSEKEEPING" PRACTICES HAVE A MAJOR BEARING ON YOUR EFFLUENT COMPOSITIONS OR ARE THEY COMPOSITIONS DETERMINED ENTIRELY BY BY-PRODUCTS OF THE PROCESS OR QUALITY OF RAW MATERIALS USED ?

COMPOSITION OF THE TREATED WASTE WATER EFFLUENT IS A FUNCTION OF RAW MATERIAL IMPURITIES, IMPURITIES IN THE INCOMING RAW WATER AND CONVENTIONAL PIGMENT TREATMENT METHODS.

4. DOES THIS PLANT HAVE ANY UNIQUE WASTE SITUATIONS AS COMPARED TO OTHER PLANTS PRODUCING THE SAME CHEMICALS (RAW MATERIAL SUPPLY, PROCESS, GEOGRAPHICAL LOCATION, OTHER) ?

INFORMATION NOT AVAILABLE.

5. ARE THE TREATMENT PROCESSES NOW USED-----

- a. SENSITIVE TO SHOCK LOADS?

A RECENT IMPROVEMENT IN THE WASTE WATER TREATMENT FACILITIES HAS MINIMIZED THE SENSITIVITY TO SHOCK LOADS.

- b. SHUTDOWN AND STARTUP ?

AS IN THE CASE OF QUESTION 5A, THE RECENT IMPROVEMENT IN THE WASTE WATER TREATMENT FACILITIES HAS MINIMIZED THE EFFECT OF SHUTDOWN AND STARTUP.

- c. MAINTENANCE REQUIREMENTS ?

SEE 5B ABOVE.

6. IS TECHNOLOGY AVAILABLE FOR ELIMINATION OF YOUR PLANT WASTE PROBLEMS ?

SEE ITEM 7, PAGE 11 OF 14.

7. IF NOW AVAILABLE, WHAT DO YOU CONSIDER THESE TECHNOLOGIES TO BE ? (EVAPORATION, DISTILLATION, DEEP WELLS, AERATION PONDS, FILTRATION, NEUTRALIZATION, ETC.)

OUTSIDE CONSULTANTS (INDUSTRIAL WASTE TREATMENT) WERE UTILIZED TO STUDY METHOD OF DISPOSAL OF SOLUBLE SALTS IN THE TREATED WASTE WATER EFFLUENT. METHODS CONSIDERED WERE AS FOLLOWS: (1) REVERSE OSMOSIS, (2) ELECTRO-DIALYSIS, (3) MULTIPLE EFFECT EVAPORATION, (4) VAPOR COMPRESSION EVAPORATION, AND (5) DEEP WELL INJECTION. ALL BUT DEEP WELL INJECTION RESULTED IN A RESIDUUM CONCENTRATE OF SOLUBLE SALTS. THE CONCENTRATE IN TURN HAD TO BE CONVERTED INTO INERT SOLIDS USING TECHNOLOGY CURRENTLY IN THE DEVELOPMENT STAGE.

AN ADDENDUM REQUISITE TO THIS METHOD WOULD BE ADDITIONAL ACREAGE FOR LAND FILL.

OF THE ALTERNATIVES REVIEWED, DEEP WELL INJECTION WAS RATED MOST FEASIBLE BUT IS NOT CONSIDERED ACCEPTABLE.

8. HOW DO YOU RATE THE COST OF UTILIZING THIS TECHNOLOGY IN SOLVING YOUR PLANT WASTE PROBLEMS ?

EXPENSIVE. COST OF DRILLING FOR DEEP WELL INJECTION, CLARIFICATION AND TREATING WASTE WATER FOR INJECTION AND ANNUAL MONITORING OF DEEP WELL FOR CASING INTEGRITY ARE EXPENSIVE COMMITMENTS FOR INDUSTRIAL WASTE WATER DISPOSAL.

9. IF NOT AVAILABLE, WHAT TECHNOLOGY NEEDS TO BE DEVELOPED ?

TECHNOLOGY TO CONVERT WASTE TO, OR EXTRACT FROM WASTE, USABLE PRODUCTS.

10. IS ADDITIONAL RECYCLING OF EFFLUENT STREAMS PRACTICABLE ?

NO; AT THE PRESENT LEVEL OF TECHNOLOGY.

11. ARE RECOVERY AND SOLID WASTE ISOLATION TECHNIQUES PRACTICABLE,  
AND IF SO, WHERE ?

NOT AT THE PRESENT LEVEL OF TECHNOLOGY.

12. WILL THE INSTALLATION OF PROJECTED WASTE CONTROL FACILITIES CAUSE  
AIR, NOISE, THERMAL OR OTHER POLLUTION EFFECTS?

SEE PAGE 8 OF 14.

13. ARE SPACE OR LAND REQUIREMENTS FACTORS IN FUTURE WASTE CONTROL PROJECTS ?

YES. SEE PAGE 9 OF 14, 1 UNDER GENERAL.

14. IF YOU WERE BUILDING A NEW PLANT COULD WASTE EFFLUENTS BE SIGNIFICANTLY REDUCED OR ELIMINATED ?

NOT WITH THE PRESENT TECHNOLOGY.

15. MAY WE HAVE PERMISSION TO MAKE SPOT CHECK VERIFICATION MEASUREMENTS ON YOUR WASTE AND EFFLUENTS ?

YES.

16. IF SO PLEASE GIVE US:

NAME TO CONTACT A. C. THOMAS

APPOINTMENT DATE(S) \_\_\_\_\_

SAMPLE LOCATIONS (NEED PLANT LAYOUT WITH MARKED SAMPLING LOCATIONS)

17. IS THERE ANY INFORMATION OR SAMPLING DATA FOR THIS PLANT AVAILABLE FROM OTHER SOURCES SUCH AS STATE OR EPA AGENCIES WHICH WOULD BE HELPFUL TO US IN OUR STUDY ?

A COPY OF THE CORPS OF ENGINEERS PERMIT APPLICATION IS ATTACHED.  
REFERENCE PAGE 5A OF 14.

STATE OF OHIO  
DEPARTMENT OF HEALTH  
WATER POLLUTION CONTROL BOARD

APPLICATION FOR WATER POLLUTION CONTROL CERTIFICATE

(Sections 6111.01-6111.08, incl., and 6111.31  
to 6111.38, incl., Ohio Revised Code.)

Pursuant to the provisions of Section 6111.31, Revised Code, and Water Pollution  
Control Board Rule 2, The Sharps-Williams Company hereby makes application  
Applicant's Name  
for certification as a Water Pollution Control Facility of machinery, equipment and  
property located at its Ashtabula Chemical Plant, 2900 Middle Road, Ashtabula, Ohio  
Street Address City and Zone  
Ashtabula, Ohio, Ashtabula County taxing district, and hereby submits the  
County  
following documents and information:

1. A copy of the plans, specifications and drawings of the facility for  
which certification is requested.
2. A list of component parts and materials incorporated or to be  
incorporated in the facility and of all equipment acquired or  
to be acquired for purposes of pollution control.
3. The cost of the facility to the applicant. (Indicate whether cost  
is actual and final, or an approximation or estimation.)

Total cost of facility \$ 133,034.64

Cost of portion sought to be exempt \$ 124,600.00

(If cost is approximation or estimation, actual and final cost will be  
furnished within 90 days from date of completion of construction of  
the facility.)

4. Status of construction of facility at date of application. Completed and in operation
5. Narrative statement which simply and completely explains the entire  
facility, its operation and purposes, including purposes other than  
industrial water pollution control.

The Sharps-Williams Company  
Applicant

By Assistant Secretary  
Signature and Title

Date May 13, 1970

NOTE: This application is to be prepared and filed in duplicate. Only one set of  
attachments need be filed and that to accompany original. File with Water Pollution  
Control Board, P. O. Box 118, Columbus, Ohio 43216.

May 13, 1970

Ohio Water Pollution Control Board  
Ohio Department of Health  
450 East Town Street  
Columbus, Ohio 43216

Re: Application for Water Pollution Control Certificate

Gentlemen:

Enclosed is the application, together with required attachments, of The Sherwin-Williams Company for certification as a Water Pollution Control Facility of certain machinery and equipment located at its Ashtabula Chemical Plant in Ashtabula, Ohio.

We trust that the enclosed materials will provide the Water Pollution Control Board with sufficient information to take early and favorable action on the application. However, should additional information be required, please feel free to contact this office.

Thank you in advance for your cooperation in this matter.

Very truly yours,

THE SHERWIN-WILLIAMS COMPANY

W. P. Inman

WPI:RLK:cmz

Enclosures

p1 JAMES A. RHODES, Governor

EMMETT W. ARNOLD, M.D.  
Director of Health

450 East Town Street  
P.O. Box 118  
Columbus, Ohio 43216

# State of Ohio



TAX DEPT

## PUBLIC HEALTH COUNCIL

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Chairman  
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Vice Chairman  
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Richard V. Brunner, D.D.S.

## Department of Health

September 25, 1970

Re: Sherwin Williams Company  
Ashtabula

Mr. W. P. Inman, Assistant Secretary  
And Corporate Director of Taxes  
The Sherwin Williams Company  
Executive Offices  
101 Prospect Avenue N.W.  
Cleveland, Ohio 44101

Dear Mr. Inman:

The purpose of this letter is to indicate the concurrence of this office with installation of the various facilities and devices for water pollution control of waste streams from Sherwin Williams Company's Ashtabula Chemical Plant, 2900 Middle Road, Ashtabula, Ohio, which operates under the Ohio Water Pollution Control Board permit number 2106.

The facilities are described in various documents and drawings attached to your letter of May 13, 1970. A listing of these documents and drawings is as follows:

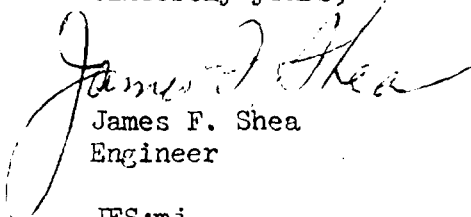
1. List of equipment items, and facilities, showing costs of equipment, components and materials required to complete and put into operation the waste treatment plant.
2. Application for Water Pollution Control Certificate (our number 70-118).
3. Collection of maps; drawings; equipment specifications; water analysis; waste treatment process parameters, under title "waste water facilities and treatment plans", submitted by G. F. Wyman, General plant manager, and dated January 11, 1968.
4. Drawing A-701 G1006 "Settling Basin".

We understand that the total installed cost of these facilities is \$126,602.61.

Mr. W. P. Inman  
Page two  
September 25, 1970

This informal approval is based on a review of the data and information presented with your letter of May 13, 1970; and a knowledge that they have been in practical operation for several years.

Sincerely yours,



James F. Shea  
Engineer

JFS:mj

cc: Water Pollution Control Board  
cc: Adam L. Wesner

The Sherwin-Williams Company  
Ashtabula Strontium (Barium)  
Water Pollution Control Facility  
Ashtabula, Ohio

Item 1. Waste Water Facilities and Treatment Plans  
submitted by G. F. Wyman, General Plant Manager, January 11, 1968.

The Sherwin-Williams Company  
2900 Middle Road  
Ashtabula, Ohio

The Sherwin-Williams Company  
Ashtabula Strontium (Barium)  
Water Pollution Control Facility  
Ashtabula, Ohio

<u>Item 2</u>	<u>Equipment</u>	<u>Equipment</u>	<u>Amount</u> <u>Component</u> <u>Parts</u>	<u>Materials</u> <u>1)</u>	<u>Total</u>
2	Waste Water Treatment Tanks each 10,150 gallons, 12' x 12' consisting of: Agitators Motors Chemical Feeder Controls and Wiring Conduit and Piping	\$15,850.43	\$9,727.60	\$ 7,421.58	\$ 32,999.61
1	Goulds 3196 Recirculation Pump	1,291.41	515.00	1,000.00	2,806.41
1	LaBour 4586 Discharge Pump	1,669.03	515.00	1,000.00	3,184.03
	steel Launderer 775' Long	12,593.62		13,857.23	26,450.85
2	Goulds 3732 Sump Pumps	1,100.01	500.00	500.00	2,100.01
1	Delta Instrumentation Control	16,048.07		1,039.19	17,087.26
	Settling Ponds			42,034.64	<u>42,034.64</u>
	Total				<u><u>\$126,662.81</u></u>

- 1) Materials include such major items as conduit, wiring, concrete, sewer tile, and all miscellaneous storeroom supplies needed to complete and put installation in operation.

The Sherwin-Williams Company  
2900 Middle Road  
Ashtabula, Ohio

9 May 1972

CERTIFICATION

I certify that I am familiar with all the information submitted to date concerning Application No. 000205 and that to the best of my knowledge and belief, such information is true, correct and accurate.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

(Do Not Write in This Space)

Application No. \_\_\_\_\_

We Received \_\_\_\_\_

(Do Not Write in This Space)

Permit No. \_\_\_\_\_

Date of Board Action \_\_\_\_\_

**WATER POLLUTION CONTROL BOARD  
DEPARTMENT OF HEALTH  
STATE OF OHIO**

**RENEWAL APPLICATION FOR PERMIT TO DISCHARGE SEWAGE, INDUSTRIAL WASTES,  
OR OTHER WASTES INTO WATERS OF THE STATE**

Please read carefully instructions on reverse side of this application before filling out.

1. Name Sherwin-Williams Chemicals Division of The Sherwin-Williams Co.
2. Location 2900 Middle Road, Ashtabula Township, Ashtabula, Ohio
3. Type of Establishment (if not a political subdivision) processing of celestite and/or barytes ore into various barium and strontium chemicals
4. Type of Discharge industrial waste and sewage
5. Body of Water Receiving Discharge Field's Brook, Ashtabula Township  
(a) Next larger receiving tributary Ashtabula River
6. Is Discharge Treated? --- Yes X No \_\_\_\_\_
7. Attach supplemental information on compliance with renewal conditions stated in letter accompanying previous permit (No. 2106.3).

Any supplemental information submitted in connection with this application will be treated as confidential by the Board. Submission of this application does not constitute a waiver by the applicant of any rights or exemptions provided by law.

In accordance with the provisions of the Water Pollution Control Act, Sections 6111.01 to 6111.08 Revised Code of Ohio, and with the rules and regulations adopted by the Water Pollution Control Board in pursuance thereof, application hereby is made for a permit to discharge into the waters of the state sewage, industrial wastes, or other wastes, as described above, and in supplemental information hereto attached, all of which is made a part of this application.

Signature of authorized official \_\_\_\_\_

Title Plant Manager

Post Office Address Box #310, Ashtabula, Ohio, 14004

**VERIFICATION**

G. F. Wyman, being first duly sworn, says that he is the officer or person duly authorized to execute the foregoing application, and that the statements made and answers given therein, written or printed, are true as he verily believes.

Signature of Applicant \_\_\_\_\_

Sworn to and subscribed in my presence this 21st day of December, 1970,  
at Ashtabula, County of Ashtabula And State of Ohio.

Signature of Officer \_\_\_\_\_

Official Title \_\_\_\_\_

JOHN L. FITZGERALD, Notary Public

My Commission Expires 11/15/73

## GENERAL INSTRUCTIONS

1. **Name of applicant** means municipality, political subdivision, public or private corporation, individual, partnership or other entity.
2. **Location** means municipality or township and county in Ohio.
3. **Type of Establishment** — The classification of the industrial firm, institution, or service entity from which the wastes in question result.
4. **Type of Discharge** means sewage, industrial wastes or other wastes (see Section 6111.01 (B), (C) and (D) R.C.). Mixtures should be so indicated.
5. **Identity of the body of water to which discharge is made** should be named. The next larger tributary, generally known, also should be named.
6. **Treatment** insofar as this paragraph is concerned constitutes alteration of polluting constituents of wastes discharged by the reduction of their effect on the receiving waters of the state. If the answer is *Yes* to the question, supplementary information should be submitted to clearly establish the effectiveness of such treatment. If the answer is *No* supplementary information should describe any program of proposed improvements for pollution abatement (see Item 7).
7. **Submission of relevant information** should be attached and titled *Exhibit A* if no other descriptive title is given. Such supplemental data should set forth the number and location of outlets if more than one is involved; details of present and proposed volume and strength (*variability*) of discharge to be disposed; normalcy with respect to present production and resultant pollution loads; and such other information as may be pertinent to the control, prevention and abatement of pollution.

December 21, 1970

Mr. G. A. Hall  
Engineer - Secretary  
P.O. Box 118  
Columbus, Ohio 43216

Re: Waste Water Discharge Permits

Dear Mr. Hall:

Enclosed is application for renewal of permit No. 2106.3 for discharge of industrial waste and sewage from the Chemicals (strontium and barium compounds) production unit of the Ashtabula Plant which expires on February 1, 1971.

Already submitted, under cover of letter dated October 15, 1970, is our application for renewal of permit No. 2366 covering discharge from the Titanium Dioxide pigment production unit of the plant. Operation under this permit, which expired December 1, 1970, was extended to February 1, 1971, as stated in the letter received from Mr. James F. Shea dated November 23, 1970. It is our understanding that since the application for renewal of permit No. 2366 is on file in your offices, another application is not to be submitted at this time.

As stated in our letter of October 15th, we are participating in the feasibility study of a joint waste water treatment facility being conducted by Catalytic, Inc. and are complying with this as well as the other requirements upon which renewal of permits are contingent.

Very truly yours,

G. F. Wyman  
Plant Manager

  
GFW:ljf  
Enclosure

cc: H.L. Berkowitz  
F.C. Gaugush  
R.G. Smith

STATE OF OHIO  
DEPARTMENT OF HEALTH  
WATER POLLUTION CONTROL BOARD .

RECEIVED

DEC 3 - 1970

THE SHERMAN & CO.

Address reply to:

G. A. Hall  
Engineer-Secretary  
P. O. Box 118  
Columbus, Ohio 43216

SPECIAL NOTICE

RENEWAL APPLICATION NECESSARY

Attention is called to the approaching expiration date of your permit for discharge to waters of the state. Renewal of permit is contingent upon compliance with conditions set forth in the letter accompanying the permit, a copy of which is attached.

Application for renewal of permit should be filed promptly. Two forms are enclosed, only one of which need be filed with the Board.

Under Item 7 of the form, explanation should be made concerning compliance with the conditions for renewal of the present permit. If for any reason the conditions have not been fulfilled a complete explanation should be provided.

G. A. Hall  
Engineer-Secretary  
Water Pollution Control Board

Enc.

12 4 70: H-B

RGS

FCG

**Re: Ashtabula County  
Ashtabula Township  
Industrial Wastes**

**August 20, 1970**

**Sherwin-Williams Chemicals  
Div. of The Sherwin-Williams Co.  
P. O. Box 110  
Ashtabula, Ohio 44004**

**Gentlemen:**

As a result of Board action August 11, 1970, enclosed is renewal permit for the discharge of industrial wastes from your establishment into "waters of the state" pursuant to the provisions of the Water Pollution Control Act of Ohio.

You will note that this permit expires February 1, 1971. Renewal of this permit is contingent upon compliance with the following conditions:

1. **Submit to the Division of Engineering a report presenting:**
  - (a) **The findings of the feasibility study on combined terminal treatment of industrial wastes as related to the existing plant;**
  - (b) **A decision to proceed or not to proceed with the combined treatment approach;**
  - (c) **If the decision is to proceed, the anticipated schedule for full implementation of the plan.**
2. **Provide satisfactory maintenance and operation of existing facilities for the treatment and disposal of industrial wastes in accordance with approved Water Quality Standards.**
3. **Submit to the Division of Engineering, at regular monthly intervals, reports to include information regarding flow volumes and pertinent analytical data on the industrial waste discharges.**

Sherwin-Williams Chemicals  
Div. of The Sherwin-Williams Co.

-2-

August 20, 1970

4. Promptly report to the Division of Engineering the occurrence and cause of any accidental or intermittent discharges of wastes which may have a deleterious effect on the receiving stream.
5. Submit to the Division of Engineering information pertaining to any plant expansion or process changes which may affect the character of the industrial waste discharges, together with a proposal for providing controls for such discharges so that there will be no deleterious effect on the receiving stream.
6. Participate in the joint industrial sampling and analysis program, with the submission to the Division of Engineering of reports and an over-all evaluation by the joint committee.

Should your company decide against combined terminal treatment, detail plans for separate treatment will be required with all due haste, unless it can be demonstrated that the composition of your effluent is compatible with water quality criteria.

Should you have any questions with respect to the above conditions, please notify us promptly.

Yours very truly,

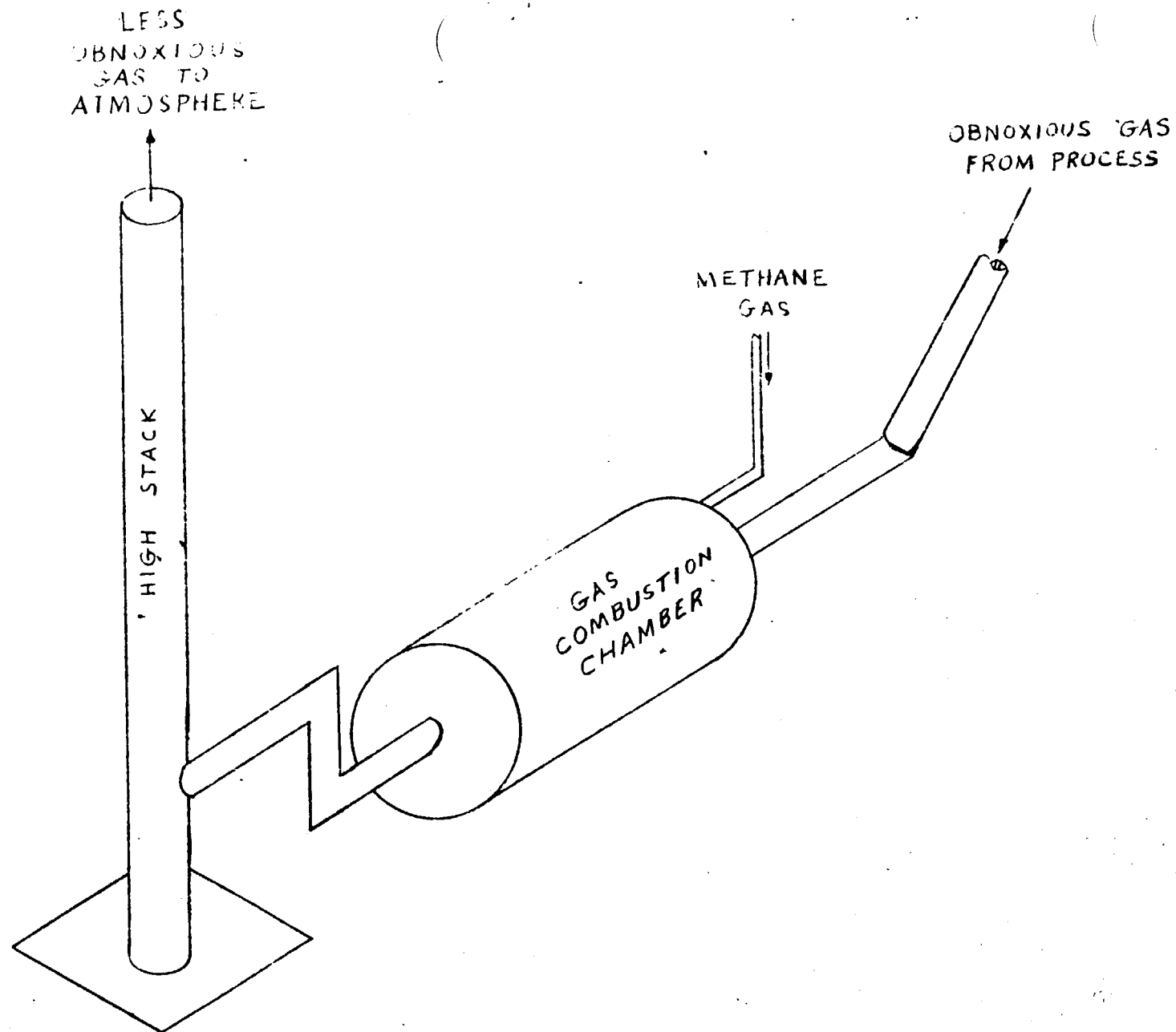
E. W. Arnold, M.D., Chairman  
Water Pollution Control Board

Enc.-Permit 2106.3

Certified mail

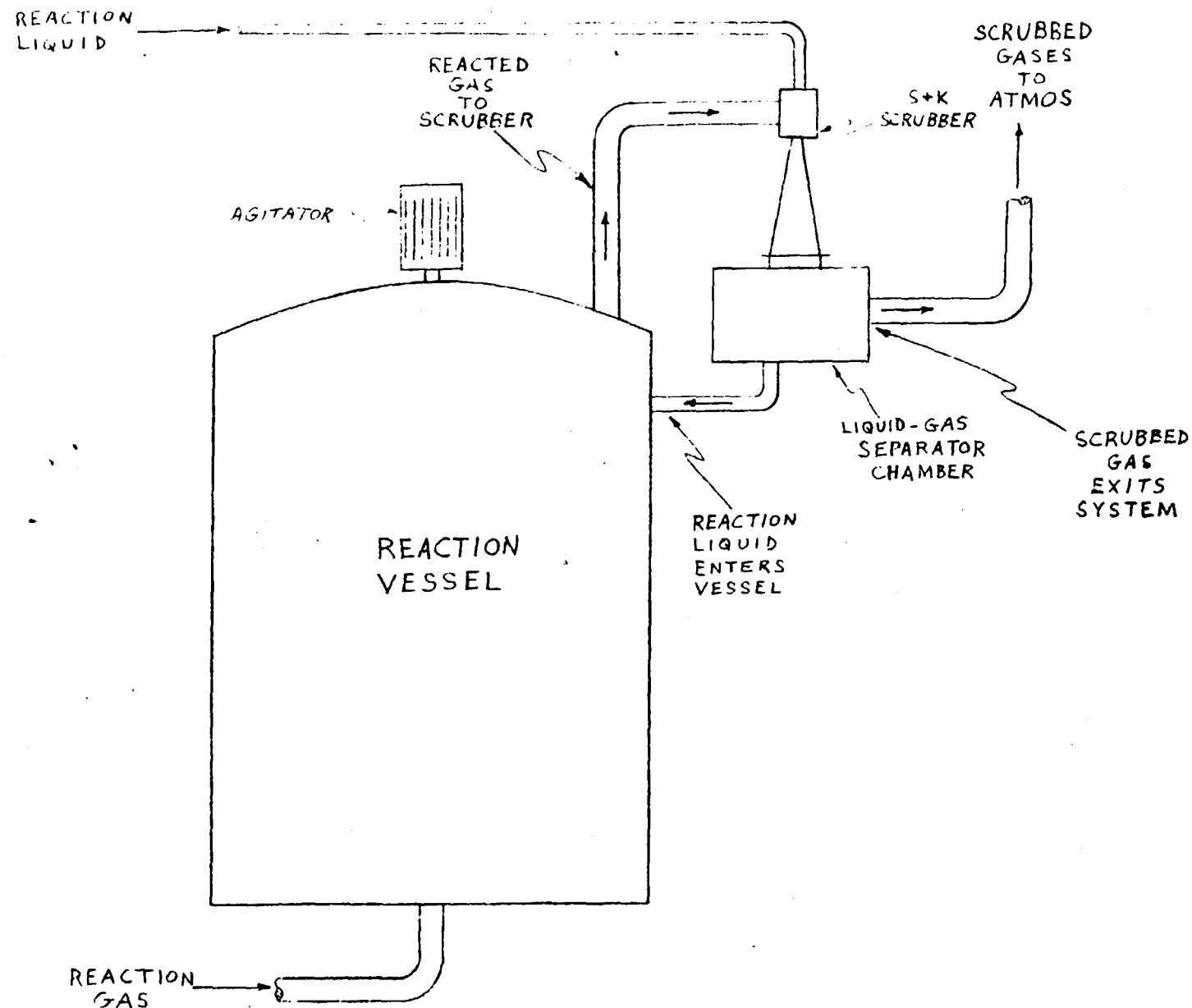
cc: Health Commissioner  
cc: District Office

12-4-70: HLB  
RG S  
FC G



ITEM A-6

OBNOXIOUS  
GAS BURNER

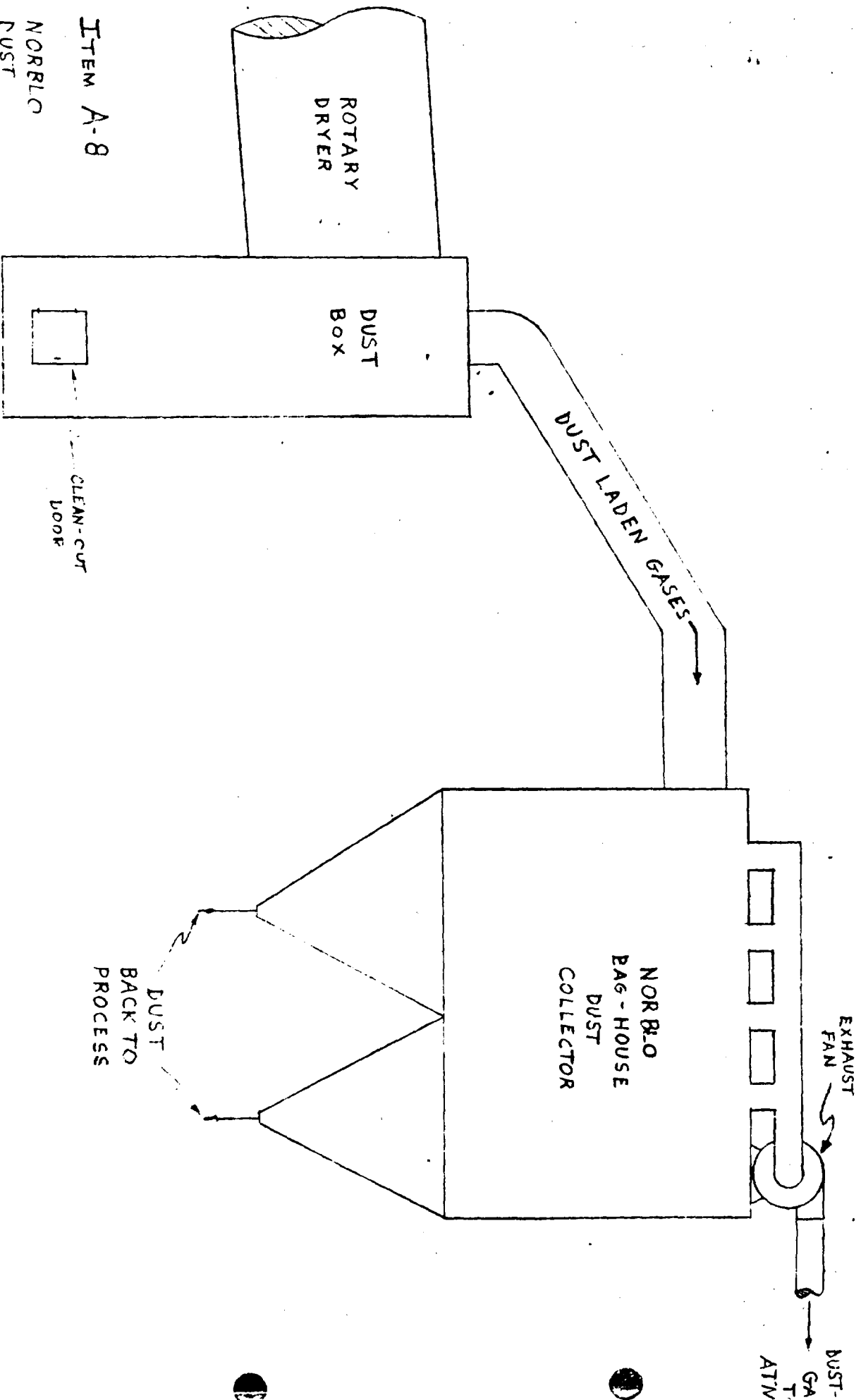


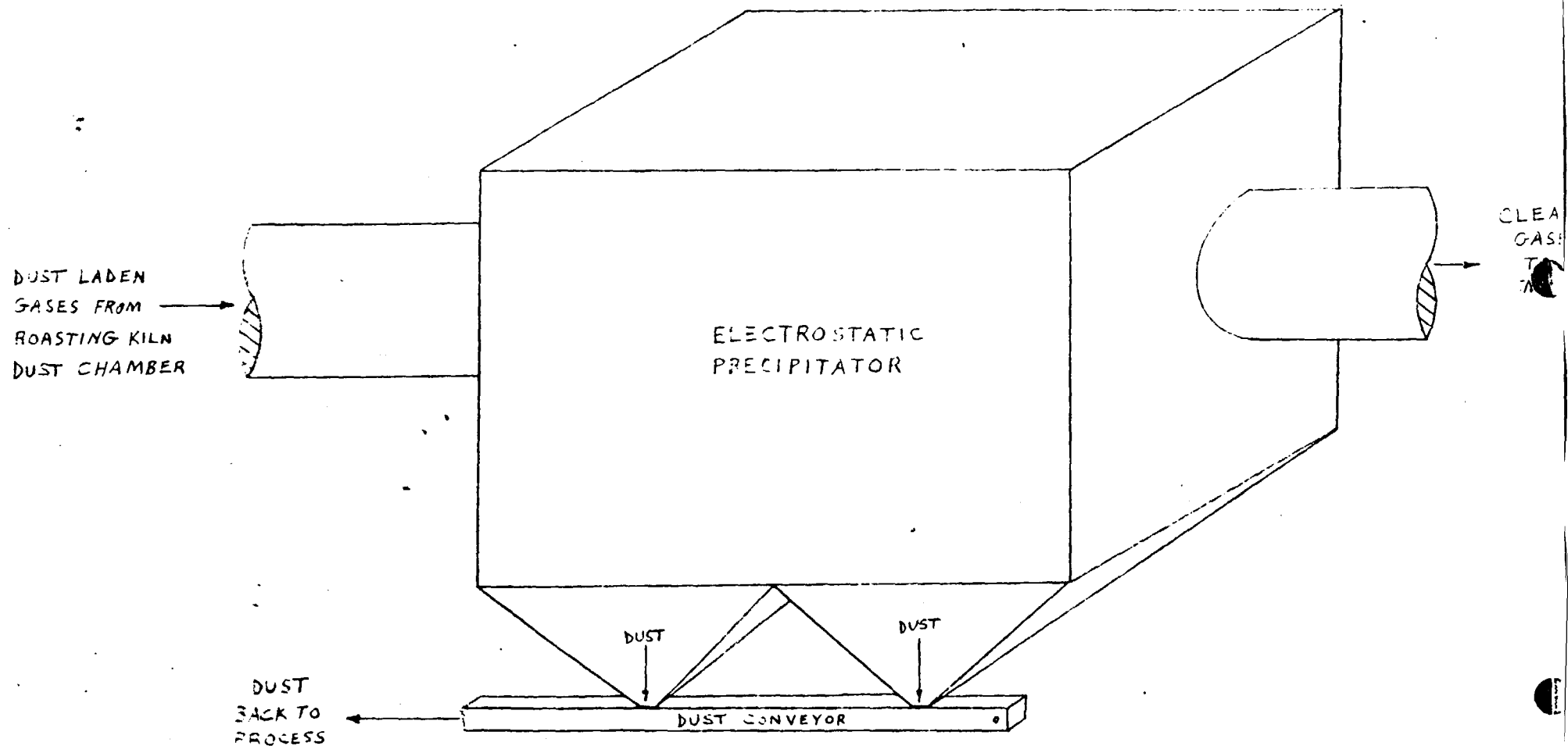
ITEM A-7

S+K SCRUBBER  
ON CuS PPT.

2158  
4-13-72

ITEM A-8  
NORBL  
DUST  
COLLECTOR

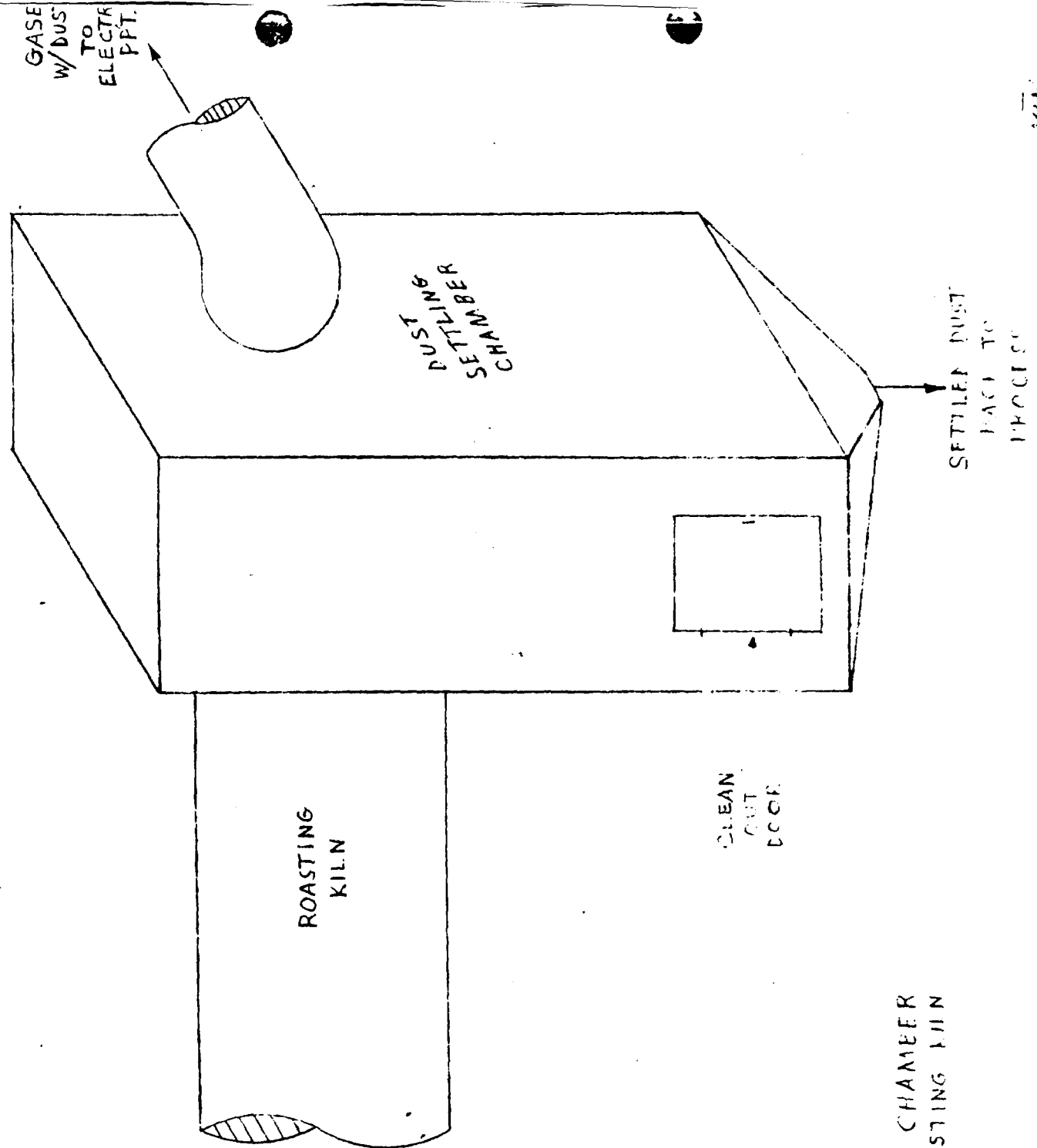




ITEM A-9

ELECTROSTATIC  
PRECIPITATOR

2008  
4-2-70



ITEM A-10  
DUST SETTLING CHAMBER  
FOR 7' X 8.5' ROASTING KILN

4-13-76

The Sherwin-Williams Company  
Ashtabula Strontium (Barium)  
Air Pollution Control Facility

Page 1 of 2

Ashtabula, Ohio

REFER TO DIAGRAMS  
 SENT TO STATE

Item	Equipment	Amount			Total
		Equipment	Component Parts	Materials 1)	
-1 1	Rotary Reduction Kiln consisting of: Reducer Motor Exhaust Blower Dust Collector Hopper Controls and Wiring Conduit and Piping Steel, Concrete, Duct Work	\$ 6,000.00	\$ 6,544.57		\$ 12,544.57
-4 1	Bufflovak Double Drum Dryer with Rotoclone Combined Dust Collector and Exhauster Motor Controls and Wiring Conduit and Piping Steel, Concrete, Duct Work	5,000.00			5,000.00
	Collecting Tank, 90 Gallon	683.49			683.49
1	Durion Discharge Pump	1,007.46	1,546.00		2,553.46
-5 1	Schutte Koerting Scrubber	6,900.00			6,900.00
-6 1	Fired Equipped Gas Combustion Chamber, 4' x 12' Stack Conduit and Piping Steel and Concrete Work	11,211.00			11,211.00
-7 1	Schutte-Koerting Scrubber installed on Tank Precipitator	2,200.00			2,200.00
-8 1	Norblo Bag Type Dust Collector Motor Controls and Wiring Steel, Concrete, Duct Work	35,402.71	4,994.00	8,350.53	48,747.24

The Sherwin-Williams Company  
 00 Middle Road  
 Ashtabula, Ohio

The Sherwin-Williams Company

Ashtabula Strontium (Barium)

Air Pollution Control Facility

Page 2 of 2

Ashtabula, Ohio

<u>Item 2</u>	<u>Equipment</u>	<u>Equipment</u>	<u>Amount</u> <u>Component</u> <u>Parts</u>	<u>Materials</u> <u>1)</u>	<u>Total</u>
-9 1	Buell Electrostatic Precipitator Consisting of: Transformers Motorized Agitators Control Panel Controls and Wiring Conduit and Piping Steel, Concrete, Duct Work	\$54,309.40	\$3,064.67	\$10,012.49	\$ 67,386.56
19 1	Rotary Roasting Kiln Consisting of: Reducer Motor Dust Chamber Controls and Wiring Conduit and Piping Steel, Concrete, Duct Work	6,000.00	5,077.54	1,400.00	<u>12,477.54</u>
	Total				<u>\$169,703.86</u>

- 1) Materials include such major items as conduit, wiring, concrete, sewer tile, and all miscellaneous storeroom supplies needed to complete and put installation in operation.

The Sherwin-Williams Company  
2900 Middle Road  
Ashtabula, Ohio

The Sherwin-Williams Company  
Ashtabula Strontium (Barium)  
Air Pollution Control Facility  
Ashtabula, Ohio

Item 5. Narrative Statement

The installed equipment is for the sole purpose of preventing pollution from dust and to convert certain gasses that are noxious to one that are considerably less noxious and/or to scrub them out completely where it is possible to do so in the production of Barium Carbonate, Barium Monohydrate, and Strontium Carbonate by a process of our own development.

The Sherwin-Williams Company  
2900 Middle Road  
Ashtabula, Ohio



UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION V  
1 NORTH WACKER DRIVE  
CHICAGO, ILLINOIS 60606

RECEIVED

JUN 25 1973

SHERWIN-WILLIAMS CO.  
G. F. WYMAN

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

JUN 21 1973

Mr. G. F. Wyman  
Plant Manager  
Sherwin Williams Company  
Post Office Box 310  
Ashtabula, Ohio 44004

Dear Mr. Wyman:

The U. S. Environmental Protection Agency has reviewed the NPDES application (formerly Corps of Engineers application) submitted by your company and has developed tentative permit conditions for the following Field's Brook dischargers:

1. Sherwin Williams	Ashtabula	OX2-000205
2. Olin Corporation	Ashtabula	OX2-000401
3. General Tire & Rubber Co.	Ashtabula	OX2-000109
4. New Jersey Zinc Co.	Ashtabula	OX2-000172
5. Detrex Chemicals	Ashtabula	OX2-000544
6. R.M.I. Co. (Sodium & Chloride)	Ashtabula	OX2-000158
7. R.M.I. Co. (Metals Reduction)	Ashtabula	OX2-000157
8. R.M.I. Co. (Extrusion)	Ashtabula	OX2-000156
9. Diamond Shamrock	Ashtabula	OX2-000322

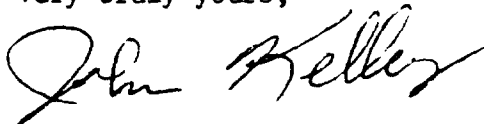
Due to the unique nature of the Field's Brook area, the decision has been made to allow the applicants an opportunity to review the enclosed Draft Permit and Briefing Memo prior to our issuance of the Public Notice on or about July 13, 1973. We encourage you to review the Initial Effluent Limitations to determine if they represent current effluent levels. If not, updated information should be submitted to us, along with comments on any other aspect of the permit so as to be in our hands by July 6, 1973.

Document "N"

If you feel it necessary, you may request a meeting between yourself and this Agency to review information submitted in your application and/or to discuss the permit in general. The meeting can be held on either July 5 or 6, 1973. All requests should be made to me no later than June 29, 1973 at telephone number (312) 353-1347.

If you have questions concerning these procedures, please feel free to call at any time.

Very truly yours,



John Kelley  
Chief, Technical Review Team  
Permit Branch

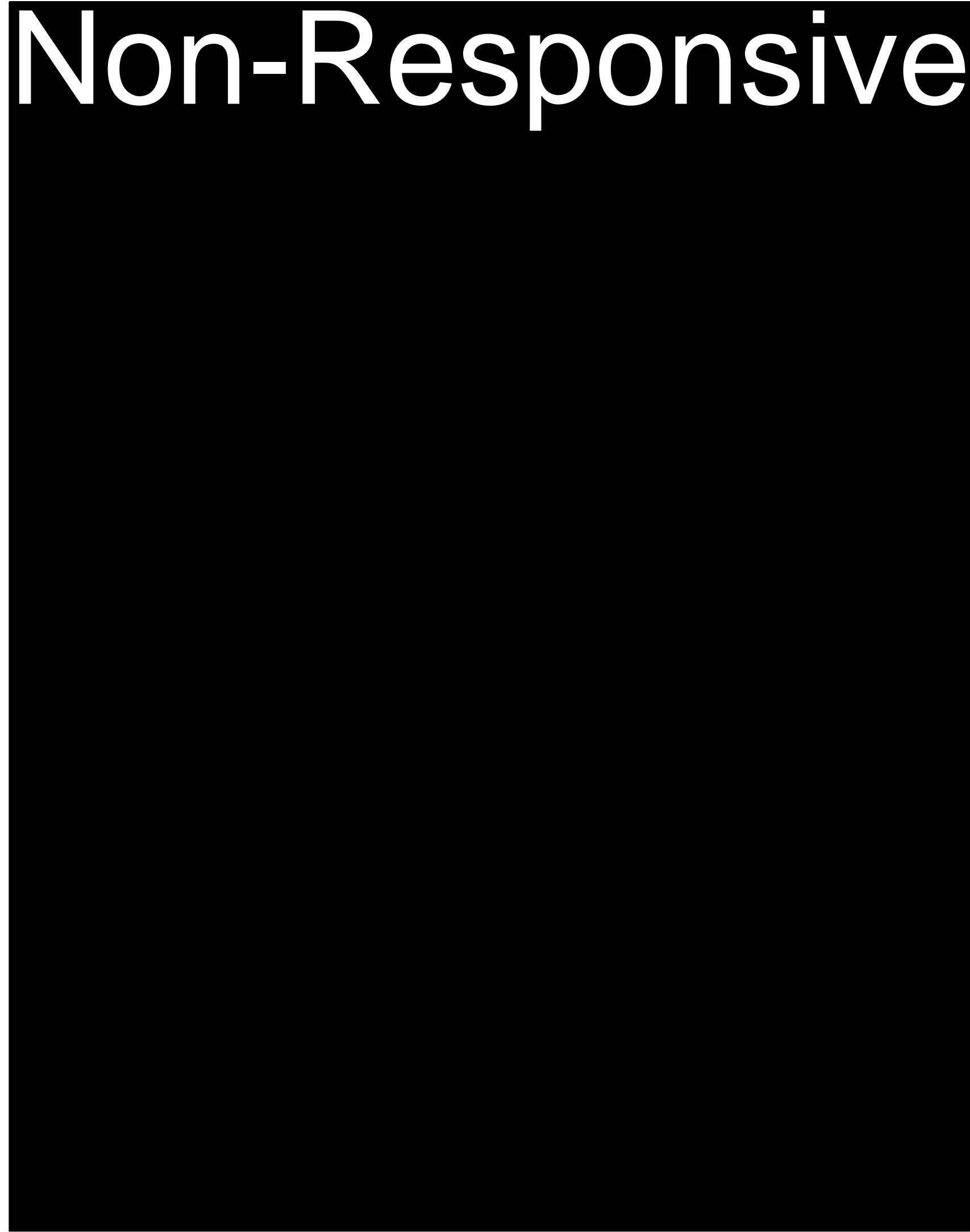
Enclosure

73: ALB

CGB

FCG

CRS



Non-Responsive

# Non-Responsive

# Non-Responsive



# Non-Responsive

### General Conditions

1. All discharges authorized herein shall be consistent with the terms and conditions of this permit; facility expansions, production increases, or process modifications which result in new or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such new or increased discharge does not violate the effluent limitations specified in this permit, by submission to the permit issuing authority of notice of such new or increased discharges of pollutants (in which case the permit may be modified to specify effluent limitations for any pollutants not identified and limited herein); the discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.

2. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

3. Notwithstanding (2) above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under section 307(a) of the Act for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee shall be so notified.

4. The permittee shall allow the head of the State water pollution control agency, the Regional Administrator, and/or their authorized representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit;
- b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;

c. To inspect at reasonable times any monitoring equipment or monitoring method required in this permit; or,

d. To sample at reasonable times any discharge of pollutants.

5. The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

6. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

7. This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

8. The specific effluent limitations and other pollution controls applicable to the discharge permitted herein are set forth below in the special conditions. Also set forth below are self-monitoring and reporting requirements. Unless otherwise specified, the permittee shall submit duplicate original copies of all reports to the head of the State water pollution control agency and the Regional Administrator. Except for data determined to be confidential under section 308 of the Act, all such reports shall be available for public inspection at the offices of the head of the State water pollution control agency and the Regional Administrator. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in section 309 of the Act.

#### Special Conditions

# Initial effluent limitations

During the period beginning on the effective date of this permit and lasting until JAN 1, 1975, discharges from  
(Give date)  
outfalls 001 + 002 shall be limited and monitored  
(Specify outfall numbers)  
by the permittee as specified below:

(a) The following shall be limited and monitored by the permittee as specified:

Effluent Characteristic	Discharge limitation in kg/day (lbs/day)		Other limitations (Specify units)		Monitoring Requirements	
	Daily		Daily		Measure-ment Frequency	Sam-ple Type
	Average	Maximum	Average	Maximum		
001 TSS	16 (35)	30 (64)	6 <sup>mg/l</sup>	11 <sup>mg/l</sup>	MONTHLY	COMPOSITE
001 TDS	11,300 (25,000)	12,300 (27,000)	4200 <sup>mg/l</sup>	4600 <sup>mg/l</sup>	MONTHLY	COMPOSITE
001 Total Chromium	0.13 (0.29)	0.21 (0.47)	0.05 <sup>mg/l</sup>	0.08 <sup>mg/l</sup>	MONTHLY	COMPOSITE
001 Copper	0.08 (0.18)	0.08 (0.18)	0.03 <sup>mg/l</sup>	0.03 <sup>mg/l</sup>	MONTHLY	COMPOSITE
001 Zinc	0.13 (0.29)	0.16 (0.35)	0.05 <sup>mg/l</sup>	0.06 <sup>mg/l</sup>	MONTHLY	COMPOSITE
0 Chlorine Res.	NA	NA	0.1 <sup>mg/l</sup>	0.3 <sup>mg/l</sup>	"	6 RAB
001 Flow	NA	NA	NA	NA	CONTINUOUS RECORDING	
001 Temperature	NA	NA	NA	NA	DAILY	RECORD OF MAXIMUM

For the sanitary discharge (002), the fecal coliform content (either MPN or MF count) shall not exceed 1,000 per 100 ml at a monthly geometric mean based on not less than 5 samples per month, nor exceed 2,000 per 100 ml in more than 10 percent of all samples taken during a month.

For the purposes of this subsection, the daily average discharge is the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating.

For the purposes of this subsection, the daily maximum discharge means the total discharge by weight during any calendar day.

(b) The pH shall not be less than 6.0 nor greater than 8.5.

The pH shall be monitored as follows: CONTINUOUS RECORDING

Final effluent limitations

During the period beginning JAN 1, 1975 and lasting  
(Give date)  
until the date of expiration of this permit, discharges from outfall

001 + 002 shall be limited and monitored by the  
(Specify outfall numbers)  
permittee as specified below:

(a) The following shall be limited and monitored by the  
permittee as specified:

Effluent Characteristic	Discharge limitation in kg/day (lbs/day)		Other limitations (Specify units)		Monitoring Requirements	
	Daily Average	Daily Maximum	Average	Maximum	Measure- ment * Frequency	Sam- ple Type
TSS	16 (35)	30 (64)	6 mg/l	11 mg/l	MONTHLY	COMPOSITE
001 TDS **	2000 (4,400)	6000 (13,100)	750 mg/l	2250 mg/l	2X MONTHLY	COMPOSITE
001 Total Chromium	—	0.13 (0.29)	—	0.05 mg/l	MONTHLY	COMPOSITE
001 Copper	—	0.08 (0.18)	—	0.03 mg/l	MONTHLY	COMPOSITE
001 Zinc	—	0.08 (0.18)	—	0.03 mg/l	MONTHLY	COMPOSITE
001 Flow	NA	NA	NA	NA	CONTINUOUS RECORDING	—
001 Temperature	NA	NA	NA	NA	DAILY	RECORD OF MAXIMUM
002 Chlorine Res.	NA	NA	0.1 mg/l	0.3 mg/l	MONTHLY	(GRAB)

\* 1) IF DURING 12 MONTHS OF MONITORING, A GIVEN PARAMETER  
IS CONSISTENTLY BELOW DETECTABLE LIMITS, THEN NO  
FURTHER MONITORING SHALL BE REQUIRED.

2) IF DURING 12 MONTHS OF MONITORING, A GIVEN PARAMETER  
IS CONSISTENTLY BELOW THE FINAL EFFLUENT LIMITATION  
IN THE TABLE ABOVE, THEN THE MEASUREMENT FREQUENCY  
MAY BE REDUCED TO ONCE EVERY TWO MONTHS.

\* \*

By September 1, 1973, the permittee shall present to the Regional  
Administrator, a detailed report evaluating the technological and  
economical feasibility of Total Dissolved Solids reduction to a level  
of 2000 lbs/day. On the basis of this report, the Regional Admin-  
istrator shall determine whether modification of the Final TDS limitation  
is appropriate or not. by Dec 1, 1973

The fecal coliform content (either MPN or MF count) shall not exceed 1,000 per 100 ml as a monthly geometric mean based on not less than 5 samples per month, nor exceed 2,000 per 100 ml in more than 10 percent of all samples taken during a month.

For the purposes of this subsection, the daily average discharge is the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating.

For the purposes of this subsection, the daily maximum discharge means the total discharge by weight during any calendar day.

(b) The pH shall not be less than 6.0 nor greater than 8.5.

The pH shall be monitored as follows: CONTINUOUS RECORDING

#### Schedule of compliance for effluent limitations

(a) Permittee shall achieve compliance with the effluent limitations specified above for discharges from outfall 001  
(specify outfall number)  
in accordance with the following schedule:

- (1) Report of Progress SEPT. 1, 1973
- (2) Report of Progress NA
- (3) Completion of final plans by DEC. 1, 1973
- (4) Award of contract or  
other commitment of financing by NA
- (5) Commencement of construction by MAR 1, 1974
- (6) Report of construction progress JULY 1, 1974
- (7) Report of construction progress NA
- (8) Report of construction progress NA
- (9) Completion of construction by OCT 1, 1974
- (10) Attainment of operational level by JAN 1, 1975

(b) The permittee shall submit to the permit issuing authority the required report of progress or, where a specific action is required in (a) above to be taken by a certain date, a written notice of compliance or noncompliance with each of the above schedule dates, postmarked no later than 14 days following each elapsed date. Each notice of noncompliance shall include the following information:

- (1) A short description of the noncompliance;
- (2) A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirement without further delay;
- (3) A description of any factors which tend to explain or mitigate the noncompliance; and
- (4) An estimate of the date permittee will comply with the elapsed schedule requirement and an assessment of the probability that permittee will meet the next scheduled requirement on time.

Compilation of monitoring data

(a) Samples and measurements taken to meet the monitoring requirements specified above shall be representative of the volume and nature of the monitored discharge.

(b) Following promulgation of guidelines establishing test procedures for the analysis of pollutants, published pursuant to section 304(g) of the Federal Water Pollution Control Act, as amended, all sampling and analytical methods used to meet the monitoring requirements specified above shall conform to such guidelines. If the section 304(g) guidelines do not specify test procedures for any pollutants required to be monitored by this permit and until such guidelines are promulgated, sampling and analytical methods used to meet the monitoring requirements specified in this permit shall, unless otherwise specified by the Regional Administrator, conform to the latest edition of the following references:

- (1) Standard Methods for the Examination of Water and Wastewaters, 13th Edition, 1971, American Public Health Association, New York, New York 10019.
- (2) A.S.T.M. Standards, Part 23, Water; Atmospheric Analysis, 1972, American Society for Testing and Materials, Philadelphia, Pennsylvania 19103.

(3) Methods for Chemical Analysis of Water and Wastes,  
April 1971, Environmental Protection Agency Water  
Quality Office, Analytical Quality Control Laboratory, NERC,  
Cincinnati, Ohio 45268.

(c) Permittee shall take samples and measurements to meet the  
monitoring requirements specified above at <sup>a</sup> ~~the~~ <sup>just prior to</sup> ~~location indicated~~  
~~below.~~ *final discharge*

(Show locations on sketch or flow diagram,  
as appropriate)

Recording of monitoring activities and results

(a) The permittee shall make and maintain records of all information resulting from the monitoring activities required by this permit.

(b) The permittee shall record for each measurement or sample taken pursuant to the requirements of this permit the following information: (1) The date, exact place, and time of sampling; (2) the dates analyses were performed; (3) who performed the analyses; (4) the analytical techniques or methods used; and, (5) the results of all required analyses.

(c) If the permittee monitors any pollutant more frequently than is required by this permit, he shall include the results of such monitoring in the calculation and reporting of the values required in the Discharge Monitoring Report form (EPA Form 3320-1 (10-72)). Such increased frequency shall be indicated on the Discharge Monitoring Report form.

(d) The permittee shall retain for a minimum of 3 years all records of monitoring activities and results including all records of calibration and maintenance of instrumentation and original strip chart recordings from continuous monitoring instrumentation. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Regional Administrator or the State water pollution control agency.

Reporting of monitoring results

(a) Monitoring information required by this permit shall be summarized and reported by submitting a Discharge Monitoring Report form (EPA Form 3320-1 (10-72)), properly filled in and signed, to the Regional Administrator and the State agency at the following addresses:

Environmental Protection Agency

Permits Branch

Regional Office, State

State agency

Capitol City, State

(b) Each submitted Discharge Monitoring Report shall be signed as follows:

(1) If submitted by a corporation, by a principal executive officer of at least the level of vice president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the Discharge Monitoring Report originates;

(2) If submitted by a partnership, by a general partner;

(3) If submitted by a sole proprietor, by the proprietor;

(4) If submitted by a municipality, State or Federal agency, or other public entity, by a principal executive officer, ranking elected official, commanding officer, or other duly authorized employee.

(c) All information submitted on the Discharge Monitoring Form shall be based upon measurements and sampling carried out during the 3 previous calendar months. The first Discharge Monitoring (give number) Report shall be submitted for the period ending DEC 31, 1973 (give date) Thereafter, reporting periods shall end on the last days of the months of June <sup>SEPT.</sup> and December <sup>MARCH</sup>. The permittee shall submit a Discharge (give months) Monitoring Report postmarked no later than the 28th day of the month following each completed reporting period.

Limitation of discharges of oil and hazardous substances in harmful quantities

The permittee shall not discharge oil into or upon navigable waters or adjoining shorelines in quantities defined as harmful in regulations published at 40 CFR 110, including any amendments or revisions to such regulations effected subsequent to the date of this permit. In addition, the permittee shall not discharge hazardous substances into or upon navigable waters or adjoining shorelines in quantities defined as harmful in regulations promulgated by the Administrator pursuant to section 311(b)(4) of the Federal Water Pollution Control Act, as amended. Nothing in this permit shall be deemed to preclude the institution of any legal action nor relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the Federal Water Pollution Control Act, as amended, or under any other Federal or State law or regulation.

Limitations of visible floating solids and foam

During the period beginning on the date of issuance of this permit and lasting (Give date) until the date of expiration of this permit, the permittee shall not discharge floating solids or visible foam.

Disposal of collected solids

(a) Intake water treatment. Solids, sludges, dirt, sand, silt, or other pollutants separated from or resulting from treatment of intake or supply water prior to use by the permittee shall be disposed of in such manner as to prevent any pollutant from such materials from entering navigable waters. Any live fish, shellfish, or other animals collected or trapped as a result of intake water screening or treatment may be returned to their water body habitat.

(b) Wastewater treatment. Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in such manner as to prevent any pollutant from such materials from entering navigable waters.

*control of independent K;  
Specify as cond. to K*

Noncompliance with effluent limitations

(a) If for any reason the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall immediately notify the permit issuing authority or his designee by telephone at \_\_\_\_\_ and provide the permit issuing authority with the following information in writing within five days of such notification:  
(Give 24-hour telephone number)

- (1) Cause of noncompliance;
- (2) A description of the noncomplying discharge including its impact upon the receiving waters;
- (3) Anticipated time the condition of noncompliance is expected to continue, or if such condition has been corrected, the duration of the period of noncompliance;
- (4) Steps taken by the permittee to reduce and eliminate the noncomplying discharge; and
- (5) Steps to be taken by the permittee to prevent recurrence of the condition of noncompliance.

(b) Permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitation specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

(c) Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, such as equipment breakdown, electric power failure, accident, or natural disaster.

Provision for Electric Power Failure

The permittee shall either

(a) no later than Oct 1, 1974, certify in writing to  
(Give date)  
the permit issuing authority that the permittee has installed or  
provided for an alternative electric power source sufficient to  
operate all facilities utilized by permittee to maintain compliance  
with the terms and conditions of the permit; or

(b) no later than thirty days after the effective date of this  
permit, certify in writing to the permit issuing authority that upon the  
reduction, loss, or failure of one or more of the primary sources of  
electric power to any facilities utilized by the permittee to maintain  
compliance with the terms and conditions of this permit, the permittee  
shall halt, reduce, or otherwise control production and/or all discharges  
in order to maintain compliance with the terms and conditions of this  
permit.

Prohibition of bypass of treatment facilities

The diversion or bypass of any discharge from facilities utilized by the permittee to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the terms and conditions of this permit. The permittee shall immediately notify the permit issuing authority in writing of each such diversion or bypass in accordance with the procedure specified above for reporting noncompliance.

### Spill Prevention and Containment Plan

Within 90 days of the effective date of this permit, the permittee shall prepare and submit to the permit issuing authority, a Spill Prevention, Containment, and Countermeasure Plan for the facility covered by this permit. Such plan shall include the following information and procedures relating to the prevention of spills and unauthorized discharges of oil and hazardous substances:

(a) a description of a reporting system to be used to notify immediately persons responsible for management of the facility and appropriate State and Federal authorities;

(b) a description of equipment or facilities (including overall facility plot) for the prevention, containment, or treatment of spills and unauthorized discharges;

(c) a list of all oil and hazardous materials used, processed, or stored at the facility including the normal quantity maintained on the premises for each listed material;

(d) a brief description of any spills or unauthorized discharges which occurred during the 36-month period preceding the effective date of this permit and subsequent measures taken by permittee to prevent or to reduce the possibility of further spills or unauthorized discharges; and

(e) an implementation schedule for additional equipment or facilities which might be required for (b) above, but which are not yet operational.

This permit shall become effective on the date of the issuing authority's signature, provided, however, that if the issuing authority is the Regional Administrator, the permit shall become effective on the thirtieth day following the date of the Regional Administrator's signature unless a request for an adjudicatory hearing is filed pursuant to the provisions of section 125.34 of NPDES regulations published at 40 CFR 125.

This permit and the authorization to discharge shall expire on midnight \_\_\_\_\_. Permittee shall not discharge after the  
(Give date)  
above date of expiration. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information, forms, and fees as are required by the agency authorized to issue NPDES permits no later than 180 days prior to the above date of expiration.

By authority of \_\_\_\_\_  
(Regional Administrator or State Agency)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Signature)



P. O. Box 310  
2900 Middle Road  
Ashtabula, Ohio 44004  
Phone: 216-998-1825

MARCH 5, 1973

MR. A. H. MANZARDO, CHIEF PERMIT BRANCH  
ENVIRONMENTAL PROTECTION AGENCY, REGION V  
UNITED STATES OF AMERICA  
1 NORTH WACKER DRIVE  
CHICAGO, ILLINOIS 60606

REFERENCE: N.P.D.E.S. APPLICATION  
No. OH 070 OX2 000205  
REVISION OF APPLICATION  
CORPS OF ENGINEERS DISCHARGE PERMIT  
REFERENCE NUMBER 000205  
ASHTABULA PLANT  
SHERWIN-WILLIAMS CHEMICALS DIVISION  
THE SHERWIN-WILLIAMS COMPANY  
P. O. Box No. 310  
ASHTABULA, OHIO 44004

DEAR MR. MANZARDO:

ATTACHED TO THIS LETTER ARE THE REVISIONS TO THE REFERENCED ORIGINAL APPLICATION FOR A CORPS OF ENGINEERS DISCHARGE PERMIT. THE REVISIONS ARE THOSE DISCUSSED JANUARY 3, 1973, IN A PHONE CONVERSATION BETWEEN MR. F. C. GAUGUSH, THE SHERWIN-WILLIAMS COMPANY, AND MR. RONALD TURNER, U.S.E.P.A., WITH A SUBSEQUENT CONFIRMING LETTER FROM MR. G. F. SCHLAUDECKER, GROUP VICE-PRESIDENT, CHEMICALS, THE SHERWIN-WILLIAMS COMPANY, TO MR. A. H. MANZARDO, CHIEF, PERMIT BRANCH, U.S.E.P.A.

BASIS FOR THE REVISIONS ARE EVENTS OCCURRING AFTER THE FILING OF THE ORIGINAL APPLICATION FOR FOUR DISCHARGE PERMITS. THREE OF THE FOUR ORIGINAL DISCHARGES ARE NO LONGER IN EXISTENCE, BEING ELIMINATED, WHICH LEAVES ONLY DISCHARGE SERIAL No. 000205-001, TIDOX<sup>(R)</sup> OPERATION. ELIMINATION OF THE THREE DISCHARGE PERMITS CHANGES THE WATER BALANCE INTO AND FROM THE PLANT SITE.

ORIGINAL DISCHARGE, SERIAL NUMBER 000205-002, FOR THE CHEMICALS OPERATION IS NO LONGER IN EXISTENCE, AS A RESULT OF PHASING OUT THE CHEMICALS OPERATION ON THE PLANT SITE.

DISCHARGES IDENTIFIED IN THE ORIGINAL APPLICATION AS DISCHARGE SERIAL NUMBERS 000205-003 AND 000205-004, POWER HOUSE DISCHARGE AND COOLING WATER DISCHARGE RESPECTIVELY, NO LONGER ARE EFFLUENT FROM THE PLANT SITE. AN IMPROVEMENT PROJECT FOR THE WASTE WATER TREATING FACILITIES (COMPLETED IN THE THIRD QUARTER OF 1972) NOW CONTAINS THE DISCHARGES ON THE PLANT SITE.

a division of *THE SHERWIN-WILLIAMS Co.*

Document "O"

MR. A. H. MANZARDO, U.S.E.P.A.  
MARCH 5, 1973

2.

REVISIONS IN PARTS A AND B OF THE ORIGINAL CORPS OF ENGINEERS DISCHARGE PERMIT APPLICATION SHOW THE EFFECTS OF ELIMINATING THREE DISCHARGES AND REDUCING THE TOTAL WATER INTAKE FOR THE PLANT.

BASIS FOR REVISIONS IN PARTS A AND B FOR SPECIFIC PARAMETERS, PHYSICAL, CHEMICAL, AND BIOLOGICAL, IS THE PREVIOUSLY NOTED TELEPHONE CONVERSATION BETWEEN MR. F. C. GAUGUSH AND MR. RONALD TURNER. ALL MEASURED PARAMETERS, PART A, ARE BY ADDITIONAL ANALYSES REDEFINED AND THESE CHANGES ARE PRESENT IN THE REVISED PART A.

IN THE ORIGINAL PART B, MEASURED PARAMETERS LESS THAN OR EQUAL TO THE CONCENTRATION OF THE INCOMING WATER ARE DEFINED SUFFICIENTLY BY THE ORIGINAL APPLICATION. ALL OTHER PARAMETERS NOT MEETING THOSE CONDITIONS ARE NOW, BY ADDITIONAL ANALYSES, REDEFINED FOR THE REVISED PART B.

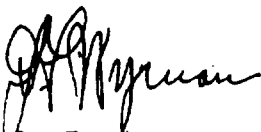
ALL PARAMETERS, PHYSICAL, CHEMICAL, AND BIOLOGICAL, UNDERLINED WITH RED ARE THOSE IN THE ORIGINAL PERMIT APPLICATION WHICH ARE NOT REDEFINED BY ADDITIONAL ANALYSES IN THE ATTACHED REVISION.

IF WE CAN BE OF ANY FURTHER ASSISTANCE IN THE MATTER OF THE ORIGINAL OR REVISED APPLICATION, PLEASE CONTACT US.

YOURS VERY TRULY,

SHERWIN-WILLIAMS CHEMICALS

G. F. SCHLAUDECKER  
GROUP VICE PRESIDENT, CHEMICALS

  
G. F. WYMAN  
PLANT MANAGER  
ASHTABULA, OHIO

CC: MR. RONALD TURNER  
MR. GORDON YESSER

ATTACHMENTS

GFW/CA

BCC: FCG  
HLB  
CGB

## DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS

## APPLICATION FOR PERMIT TO DISCHARGE OR WORK IN NAVIGABLE WATERS AND THEIR TRIBUTARIES

## SECTION I. GENERAL INFORMATION

1. State	Application Number (to be assigned by Corps of Engineers)			
O H	---	---	---	---
	Div.	Dist.	Type	Sequence No.

2. Name of applicant and title of signing official THE SHERWIN-WILLIAMS COMPANY; GROUP VICE PRESIDENT,  
CHEMICALS, G. F. SCHLAUDECKER

3. Mailing address of applicant THE SHERWIN-WILLIAMS COMPANY  
101 PROSPECT AVE., N.W.  
P. O. Box No. 6027  
CLEVELAND, OHIO 44101

4. Name, address, telephone number and title of applicant's authorized agent for permit application coordination and correspondence.  
G. F. WYMAN, PLANT MANAGER  
SHERWIN-WILLIAMS CHEMICALS DIVISION  
P. O. Box No. 310  
ASHTABULA, OHIO 44004  
PHONE: 216-998-1825

NOTE TO APPLICANT: Refer to the pamphlet entitled "Permits for Work and Structures in and for Discharges or Deposits into Navigable Waters" before attempting to complete this form.

## Required Information

- All information contained in this application will, upon request, be made available to the public for inspection and copying. A separate sheet entitled "Confidential Answers" must be used to set out information which is considered by the applicant to constitute trade secrets or commercial or financial information of a confidential nature. The information must clearly indicate the item number to which it applies. Confidential treatment can be considered only for that information for which a specific written request of confidentiality has been made on the attached sheet. However, in no event will identification of the contents and frequency of a discharge be recognized as confidential or privileged information.
- The applicant shall furnish such supplementary information as is required by the District Engineer in order to evaluate fully an application.
- If additional space is needed for a complete response to any item on this form, attach a sheet entitled "Additional Information." Indicate on that sheet the item numbers to which answers apply.
- Drawings required by items 20 and 21 should be attached to this application. Other papers which must be attached to this application include, if applicable, copies of a water quality certification or a written communication which describes water quality impact (see Item 22 and Item 10 of Section II below), the additional information sheet(s) in "c" above, and the confidential information sheet described in "a" above.

## Fees

If any discharge or deposit is involved, an application fee of \$100 must be submitted with this application. An additional \$50 is required for each additional point of discharge or deposit.

## Signature

- If a discharge is involved, an application submitted by a corporation must be signed by the principal executive officer of that corporation or by an official of the rank of corporate vice president or above who reports directly to such principal executive officer and who has been designated by the principal executive officer to make such applications on behalf of the corporation. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor. Other signature requirements are discussed in the pamphlet.
- If no discharge is involved, an application may be signed by the applicant or his authorized agent.

Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate.

18 U.S.C. Section 1001 provides that:

Signature of Applicant  
G. F. SCHLAUDECKER, GROUP VICE PRESIDENT

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and wilfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

## FOR CORPS OF ENGINEERS USE ONLY

Acronym name of applicant

Are discharge structures

Date received, form not complete

Date received, form complete  
but without certificate

Date received, form complete

Date of Cert./Ltr.

day mo yr

Major? ☐Minor? ☐N/A? ☐

Date sent to EPA, form not complete

Date sent to EPA, NOAA, D/I, AEC,  
FPC in complete form

day mo yr

5. Date <u>03</u> <u>05</u> <u>73</u> mo      day      yr	(Office use only)
6. Check type of application: a. Original <input type="checkbox"/> b. Revision <input checked="" type="checkbox"/>	7. Number of original application 000205
8. Name of facility where discharge or construction will occur. SHERWIN-WILLIAMS CHEMICALS DIVISION, ASHTABULA PLANT, ASHTABULA TOWNSHIP, ASHTABULA COUNTY, OHIO	
9. Full mailing address of facility named in item 8 above. SHERWIN-WILLIAMS CHEMICALS DIVISION P. O. Box No. 310 ASHTABULA, OHIO 44004	
10. Names and mailing addresses of all adjoining property owners whose property also adjoins the waterway. NEW JERSEY ZINC COMPANY (FORMERLY CABOT TITANIA, INC.) P. O. Box No. 160 ASHTABULA, OHIO 44004	
11. Check to indicate the nature of the proposed activity: a. Dredging <input type="checkbox"/> b. Construction <input type="checkbox"/> c. Construction with Discharge <input type="checkbox"/> b. Discharge only <input checked="" type="checkbox"/>	
12. If activity is temporary in nature, estimate its duration in months. DOES NOT APPLY	
If application is for a discharge:	
13. List intake sources	
Source	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal or private water supply system	— — — 0. 7 9
Surface water body	— — — 0. — —
Ground water	— — — 0. — —
Other (MUNICIPAL)	— — — 0. 0 3
14. Describe water usage within the plant	
Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Cooling water	— — — 0. 3 2
Boiler Feed water	— — — 0. 1 3
Process water	— — — 0. 3 3
Sanitary system*	— — — 0. 0 3
Other	— — — 0. — —
15. List volume of discharges or losses other than into navigable waters.	
Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal waste treatment system	— — — 0. 0 0
Surface containment (CONTAINMENT FOR RECYCLE)	— — — 0. 4 0
Underground disposal	— — — 0. 0 0
Waste Acceptance firms	— — — 0. 0 1
Evaporation	— — — 0. 1 3
Consumption	— — — 1. 5 7
* Indicate number employees served per day <span style="float: right;">167</span>	

If structures exist, or dredging, filling or other construction will occur, the precise location of the activity must be described.

(Office use only)

Name the corporate boundaries within which the structures exist or the activity will occur.

16. State OHIO

17. County ASHTABULA

18. City or Town N/A (ASHTABULA TOWNSHIP)

b. Name of waterway at the location of the activity

19. FIELD'S BROOK, ASHTABULA RIVER TRIBUTARY

20. Maps and sketches which show the location and character of each structure or activity, including any and all outfall devices, dispersive devices, and non-structural points of discharge, must be attached to this application.

21. For construction or work in navigable waters for which a separate permit is sought under 33 U.S.C. 403, the character of each structure must be fully shown on detailed plans to be submitted with this application. Note on the drawings those structures for which separate discharge information (Section II of this form) has been submitted.

22. List all approvals or denials granted by Federal, interstate, State or local agencies for any structures, construction, discharges or deposits described in this application.

Type of document	Id. No.	Date	Issuing Agency
DISCHARGE PERMIT	2366	2-11-70/	OHIO WATER POLLUTION
TIDOX OPERATION		12-1-70	CONTROL BOARD,
			OHIO DEPARTMENT OF HEALTH

Check if facility existed or was lawfully under construction prior to April 3, 1970.



4. If dredging or filling will occur:

State the type of materials involved, their volume in cubic yards, and the proposed method of measurement.

DOES NOT APPLY.

25. Describe the proposed method of instrumentation which will be used to measure the volume of any solids which may be deposited and to determine its effect upon the waterway.

VOLUMETRIC FLOW IS MEASURED ALONG WITH ANALYTICAL DETERMINATION OF SUSPENDED SOLIDS. SUSPENDED SOLIDS PRESENT IN THE TREATED WASTE DISCHARGE WILL REMAIN IN SUSPENSION TEMPORARILY BUT WILL SETTLE EVENTUALLY.

26. State rates and periods of deposition described in Item 25.

RATE OF DEPOSITION OF SOLIDS WILL BE RECORDED AS POUNDS PER DAY OF TOTAL SUSPENDED SOLIDS. (ESTIMATES NOT TO EXCEED 100 POUNDS PER DAY.) PERIODS OF DEPOSITION WILL BE ON A CONTINUOUS DISCHARGE BASIS FOR ONE MONTH.

## SECTION II. PLANT PROCESS AND DISCHARGE DESCRIPTION

1. Discharge described below is a. Present <input checked="" type="checkbox"/> b. Proposed new or changed <input type="checkbox"/>		2. Implementation schedule <input type="checkbox"/>	(Office use only)
Name of corporate boundaries within which the point of discharge is located. State <u>OHIO</u> County <u>ASHTABULA</u>		City or Town <u>N/A (ASHTABULA TOWNSHIP)</u>	6. Discharge Serial No. <u>000205-001</u>
State the precise location of the point of discharge. 7. Latitude <u>4 1</u> Degrees; <u>5 3</u> Min; <u>4 1</u> Sec. 8. Longitude <u>8 0</u> Degrees; <u>4 5</u> Min; <u>1 0</u> Sec.		9. Name of waterway at the point of discharge. <u>FIELD'S BROOK, A TRIBUTARY OF THE ASHTABULA RIVER</u>	
10. Has application for water quality certification or description of impact been made? If so, give date: Date <u>0 6</u> <u>0 9</u> <u>7 1</u> mo day yr Check if certificate is attached to form <input type="checkbox"/> Name Issuing Agency _____			
11. Narrative description of activity (include terms of general 4-digit Standard Industrial Classification, and specific manufacturing process). <u>SIC 281 GENERAL PROCESS: MANUFACTURER OF INORGANIC CHEMICALS</u> <u>SIC 2816 SPECIFIC PROCESS: MANUFACTURER OF TITANIUM DIOXIDE</u> <u>PIGMENTS (TIDOX(R))</u>			
12. Standard industrial classification number. <u>SIC 2816</u>	13. Principal product. <u>TITANIUM DIOXIDE</u> <u>PIGMENTS</u>	14. Amount of principal product produced per day. <u>AVERAGE 71.0 TONS</u> <u>PER DAY</u>	
15. Principal raw material. <u>SEE ITEMS 13 AND 14</u>	16. Amount of principal raw material consumed per day. <u>SEE ITEMS 13 AND 14</u>	17. Number of batch discharges per day. <u>CONTINUOUS DISCHARGE</u>	
18. Average gallons per batch discharge. <u>SEE ITEM 17</u>	19. Date discharge began. <u>0 9</u> <u>0 1</u> <u>6 9</u> mo day yr	20. Date discharge will begin. <u>SEE ITEM 19</u> mo day yr	
21. Describe waste abatement practices.  PROCESS EFFLUENTS FROM THE TIDOX(R) OPERATION ARE COLLECTED IN ACID BRICK TRENCHES AND ROUTED TO A CENTRAL MIXING BASIN. SODIUM HYDROXIDE IS ADDED TO AN AGITATED MIXING BASIN TO NEUTRALIZE. OTHER DISCHARGES ARE COLLECTED IN DITCHES AND PUMPED TO THE SAME AGITATED BASIN FOR NEUTRALIZATION. NEUTRALIZED WATER OVERFLOWING THE BASIN FLOWS THROUGH TWO RETENTION BASINS IN SERIES (CAPACITY: 800,000 GALLONS EACH) WHERE THE WATER IS CLARIFIED BY SEDIMENTATION. OUTFALL FROM THE RETENTION POND FLOWS INTO FIELD'S BROOK WITH CONTINUOUS INSTRUMENT MONITORING OF FLOW TEMPERATURE, DISSOLVED OXYGEN, TURBIDITY AND CONDUCTIVITY. AT EIGHT HOUR INTERVALS, LABORATORY PERSONNEL ANALYZE FOR SUSPENDED SOLIDS AND PH AS A CHECK. <u>ESEPAR, ESEGRE, DREACT, DHYSIC, RECYCL, OMONIT, PSEDIM, CNEUTR, SLAGOO, SLANDD, TPROCE</u>			

22.

## PHYSICAL DESCRIPTION OF INTAKE WATER AND DISCHARGE

Intake	Discharge					(Office use only)	
	UNTREATED INTAKE WATER	TREATED INTAKE WATER	AVERAGE (DAILY) (1)	MINIMUM (OPERATING YEAR) (2)	MAXIMUM (OPERATING YEAR) (3)	SAMPLE FREQUENCY (4)	CONTINUOUS MONITORING (5)
Parameter and Code	(1)	(2)	ADDENDUM (3)	(4)	(5)	(6)	(7)
Flow (Gallons per day) 00056	792,509	792,509	695,520	388,800	864,000	DYLY	REC
pH 00400	8.1	9.5	7.1	6.5	8.0	"	REC
Temperature (Winter) (°F) 74028	46	46	74	59	75	"	REC
Temperature (Summer) (°F) 74027	75	75	89	75	109	"	REC

Discharge Serial No.  
000205-001

23.

## DISCHARGE CONTENTS

PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT
Color 00080	X		Aluminum 01105	X		Nickel 01067	?	
Turbidity 00070	X		Antimony 01097	?		Selenium 01147	?	
Radioactivity 74050	?		Arsenic 01002	?		Silver 01077	?	
Hardness 00900	X		Beryllium 01012	?		Potassium 00937	X	
Solids 00500	X		Barium 01007	?		Sodium 00929	X	
Ammonia 00610	X		Boron 01022	?		Titanium 01152	X	
Organic Nitrogen 00605	X		Cadmium 01027	?		Tin 01102	?	
Nitrate 00620	X		Calcium 00916	X		Zinc 01092	?	
Nitrite 00615	?		Cobalt 01037	?		Algicides 74051		X
Phosphorus 00665	X		Chromium 01034	?		Oil and Grease 00550		X
Sulfate 00945	X		Copper 01042	?		Phenols 32730		X
Sulfide 00745	?		Iron 01045	?		Surfactants 38260	?	
Sulfite 00740	?		Lead 01051	?		Chlorinated Hydrocarbons 74052	?	
Bromide 71870	?		Magnesium 00927	?		Pesticides 74053	X	
Iodide 10	X		Manganese 01055	?		Fecal Streptococci Bacteria 74054	?	
ide 20	?		Mercury 71900	?		Coliform Bacteria 74056	?	
Fluoride 00951	?		Molybdenum 01062	?				

Have all known hazardous or potentially hazardous substances in your plant been inventoried?

☒ Yes

☐ No

24b. If yes, have steps been taken to insure that there exists no possibility of any such known hazardous or potentially hazardous substance entering this discharge?

☒ Yes

☐ No

25. Remarks.

PART A, COL. 4, BASIS OF THE CALCULATION WAS 71 TONS PER DAY OF  
TITANIUM DIOXIDE PIGMENTS.

The information above completes the basic reporting requirements which are required of all applicants. Those applicants whose discharge results from an activity included within any of the Standard Industrial Classification Code (SIC Code) categories listed below must complete Part A of this form as well.

### CRITICAL INDUSTRIAL GROUPS

SIC 098	FISH HATCHERIES, FARMS, AND PRESERVES	SIC 285	PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS
SIC 10-14	DIVISION B - MINING	SIC 2871	FERTILIZERS
SIC 201	MEAT PRODUCTS	SIC 2879	AGRICULTURAL PESTICIDES, AND OTHER AGRICULTURAL CHEMICALS, NOT ELSEWHERE CLASSIFIED
SIC 202	DAIRY PRODUCTS	SIC 2891	ADHESIVES AND GELATIN
SIC 203	CANNED PRESERVED FRUITS, VEGETABLES (EXCEPT SEAFOODS, SIC 2031 AND 2036)	SIC 2892	EXPLOSIVES
SIC 2031, 2036	CANNED AND CURED FISH AND SEAFOODS; FRESH OR FROZEN PACKAGED FISH AND SEAFOODS	SIC 29	PETROLEUM REFINING AND RELATED INDUSTRIES
SIC 204	GRAIN MILL PRODUCTS	SIC 3011, 3069	TIRES AND INNER TUBES; FABRICATED RUBBER PRODUCTS, NOT ELSEWHERE CLASSIFIED
206	SUGAR	SIC 3079	MISCELLANEOUS PLASTICS PRODUCTS
207	CONFECTIONARY AND RELATED PRODUCTS	SIC 311	LEATHER TANNING AND FINISHING
SIC 208	BEVERAGES	SIC 32	STONE, CLAY, GLASS, AND CONCRETE PRODUCTS
SIC 209	MISCELLANEOUS FOOD PREPARATIONS AND KINDRED PRODUCTS	SIC 331	BLAST FURNACES, STEEL WORKS, AND ROLLING AND FINISHING MILLS
SIC 22	TEXTILE MILL PRODUCTS	SIC 332	IRON AND STEEL FOUNDRIES
SIC 23	APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	SIC 333, 334	PRIMARY SMELTING AND REFINING OF NON-FERROUS METALS; SECONDARY SMELTING AND REFINING OF NONFERROUS METALS
SIC 242	SAWMILLS AND PLANING MILLS	SIC 336	NONFERROUS FOUNDRIES
SIC 2432	VENEER AND PLYWOOD	SIC 347	COATING, ENGRAVING, AND ALLIED SERVICES
SIC 2491	WOOD PRESERVING	SIC 35	MACHINERY, EXCEPT ELECTRICAL
SIC 26	PAPER AND ALLIED PRODUCTS	SIC 36	ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES
SIC 281	INDUSTRIAL INORGANIC AND ORGANIC CHEMICALS (EXCEPT SIC 2818)	SIC 37	TRANSPORTATION EQUIPMENT (EXCEPT SHIP BUILDING AND REPAIRING, SIC 3731)
SIC 2818	INDUSTRIAL ORGANIC CHEMICALS	SIC 3731	SHIP BUILDING AND REPAIRING
SIC 282	PLASTICS MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBER, SYNTHETIC AND OTHER MAN-MADE FIBERS, EXCEPT GLASS	SIC 491	ELECTRIC COMPANIES AND SYSTEMS
SIC 283	DRUGS	SIC 493	COMBINATION COMPANIES AND SYSTEMS
SIC 284	SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS		

# PART A

Note: Submission of Part A is required of all applicants whose processes are listed on page 3 above.)

(Office use only)

Discharge Serial No.  
000205-001

## INFORMATION REQUIRED OF SPECIFIED INDUSTRIES

Intake	Discharge										
PARAMETER AND CODE	(1) DAILY AVG. CONCENTRATION	(2) TREATED INTAKE WATER MAXIMUM CONCENTRATION	(3) MAXIMUM CONCENTRATION PER PROCESS UNIT	(4) MAXIMUM POUNDS PER DAY CONCENTRATION	(5) DAILY AVG. CONCENTRATION	(6) AVERAGE POUNDS PER DAY	(7) SAMPLE TYPE	(8) SAMPLE FREQUENCY	(9) METHOD OF ANALYSIS	(10) CONTINUOUS MONITORING	(11)
ALKALINITY (as CaCO <sub>3</sub> ) 00410	140	80	75	6	435	55	319	CONT	DYLY	STD. MTHD.	ABS
B.O.D. 5-DAY 00310	< 10	< 10	< 10	< 1	< 58	< 10	< 58	AVER	DYLY	STD. MTHD.	ABS
CHEMICAL OXYGEN DEMAND (C.O.D.) 00340	13	11	46	4	267	28	162	AVER	DYLY	STD. MTHD.	ABS
TOTAL SOLIDS 00000	270	220	4590	375	26,625	4180	24,247	CONT	DYLY	STD. MTHD.	ABS
TOTAL DISSOLVED SOLIDS 70300	250	220	4590	375	26,625	4176	24,223	CONT	DYLY	STD. MTHD.	ABS
TOTAL SUSPENDED SOLIDS 00530	60	< 2	11	< 1	64	6	35	CONT	DYLY	STD. MTHD.	ABS
TOTAL VOLATILE SOLIDS 00505	160	120	140	11	812	107	621	CONT	DYLY	STD. MTHD.	ABS
AMMONIA (as N) 00610	< 0.2	< 0.2	< 0.2	< 0.02	< 1	< 0.2	< 1	CONT	DYLY	STD. MTHD.	ABS
KJELDAHL NITROGEN 00625	0.5	< 0.2	0.5	0.04	3	0.3	2	CONT	DYLY	STD. MTHD.	ABS
NITRATE (as N) 00620	0.8	0.4	2.8	0.23	16	1.20	7	CONT	DYLY	STD. MTHD.	ABS
PHOSPHORUS TOTAL (as P) 00665	0.08	0.04	0.07	< 0.01	< 1	0.05	< 1	CONT	DYLY	STD. MTHD.	ABS

**TABLE A**  
Guide for Completion of Part A

PARAMETER & UNITS	METHOD	REFERENCES			SIGNIFICANCE IN REPORTING DATA
		STANDARD METHODS 13TH ED. 1971	A.S.T.M. STANDARDS Pt. 23 1970	W.Q.O. METHODS 1971	
ALKALINITY AS Ca CO <sub>3</sub> Mg/liter	ELECTROMETRIC TITRATION TECHNICON METHYL ORANGE METHOD	p. 370	p. 154	p. 6	X.
B.O.D. 5-DAY Mg/liter	MODIFIED WINKLER METHOD OR PROBE METHOD	p. 489	p. 712	p. 15	X.
CHEMICAL OXYGEN DEMAND (C.O.D.) Mg/liter	DICHROMATE REFLUX METHOD	p. 495	—	p. 17	X.
TOTAL SOLIDS Mg/liter	GRAVIMETRIC, 105°C. METHOD	p. 535	—	p. 280	X.
TOTAL DISSOLVED (FILTERABLE) Mg/liter	GLASS FIBER FILTRATION METHOD, 180°C.	p. 539	—	p. 275	X.
TOTAL SUSPENDED (NON-FILTERABLE) SOLIDS Mg/liter	GLASS FIBER FILTRATION METHOD, 103-105°C.	p. 537	—	p. 278	X.
TOTAL VOLATILE SOLIDS Mg/liter	GRAVIMETRIC METHOD 550°C.	p. 536	—	p. 282	X.
AMMONIA (as N) Mg/liter	DISTILLATION-NESSLERIZATION METHOD OR TECHNICON-DIGESTION & PHENOLATE METHOD	p. 453	—	p. 134	.XX
KJELDAHL NITROGEN Mg/liter	DIGESTION-DISTILLATION METHOD OR TECHNICON-DIGESTION & PHENOLATE METHOD	p. 469	—	p. 149	.XX
NITRATE (as N) Mg/liter	BRUCINE SULFATE METHOD OR TECHNICON-HYDRAZINE REDUCTION METHOD	p. 461	—	p. 170	.XX
TOTAL PHOSPHORUS (as P) Mg/liter	PERSULFATE DIGESTION & SINGLE REAGENT METHOD OR TECHNICON-MANUAL DIGESTION & SINGLE REAGENT OR STANNOUS CHLORIDE	p. 526	—	p. 235	.XX

## PART B DISCHARGE DESCRIPTION

(Note: Submission of Part B is required of all applicants who are required to submit Part A. Only those parameters specifically stated in the instructions are to be reported by a particular industry)

(Office use only)

Discharge Serial No.

000205-001

### B-1. PHYSICAL AND BIOLOGICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-1)

Intake	Discharge						
PARAMETER AND CODE	UNTREATED INTAKE WATER	TREATED INTAKE WATER	AVERAGE (DAILY)	MINIMUM (OPERATING YEAR)	MAXIMUM (OPERATING YEAR)	SAMPLE FREQUENCY	CONTINUOUS MONITORING
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
COLOR 00080	22	< 5	5		5	DYLY	ABS
SPECIFIC CONDUCTANCE 00095	360	317	6,567	6,200	7,100	DYLY	ABS
TURBIDITY 70	69	< 10	10		10	DYLY	REC
FECAL STREPTOCOCCI BACTERIA 74054	<u>ND*</u>	<u>ND</u>	<u>ND</u>		<u>ND</u>	<u>0</u>	<u>A</u>
FECAL COLIFORM BACTERIA 74055	<u>ND</u>	<u>ND</u>	<u>ND</u>		<u>ND</u>	<u>0</u>	<u>A</u>
TOTAL COLIFORM BACTERIA 74056	<u>16</u>	<u>ND</u>	<u>ND</u>		<u>ND</u>	<u>0</u>	<u>A</u>

\* NOT DETECTABLE

# PART B

(Office use only)

Discharge Serial No.

000205-001

## B-2. CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

Intake	Discharge										
PARAMETER AND CODE	UNTREATED INTAKE WATER	TREATED INTAKE WATER	MAXIMUM CONCENTRATION	MAXIMUM POUNDS PER DAY PER PROCESS UNIT	MAXIMUM POUNDS PER DAY	DAILY AVG. CONCENTRATION	AVERAGE POUNDS PER DAY	SAMPLE TYPE	SAMPLE FREQUENCY	METHOD OF ANALYSIS	CONTINUOUS MONITORING
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
ACIDITY (as CaCO <sub>3</sub> ) 00435	W 10	10	9	< 1	26	6	17	COMP	DYLY	STD MTHD	ABS
TOTAL ORGANIC CARBON (T.O.C.) 00680	24.7	7.0	26.0	2.1	150.8	15.0	87.0	CONT	"	"	"
HARDNESS	116	83	134	11	777	97	563	CONT	"	"	"
NITRITE (as N) 00615	0.01	< 0.01	0.01	< 0.1	< 0.1	0.01	< 0.1	CONT	"	"	"
ORGANIC NITROGEN 00605	W 0.65							COMP	"	"	"
PHOSPHORUS-ORTHO (as P) 70507	< W 0.4	< 0.4	< 0.4	< 0.1	< 2.3	< 0.4	< 2.3	CONT	"	"	"
SULFATE 00945	24.6	27.5	525.7	42.9	3,049	391.6	2,272	CONT	"	"	"
SULFIDE 00745	< W 0.5	< 0.5	< 0.5	< 0.1	< 2.9	< 0.5	< 2.9	CONT	"	"	"
SULFITE 00740	W < 0.1							COMP	"	"	"
DIETHYLAMIDE 71870	W 0.44							COMP	"	"	"

# PART B

(Office use only)

Discharge Serial No.  
000205-001

B-2. (cont.)

## CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

Intake	Discharge										
PARAMETER AND CODE	UNTREATED INTAKE WATER	TREATED INTAKE WATER	MAXIMUM CONCENTRATION	MAXIMUM POUNDS PER DAY PER PROCESS UNIT	MAXIMUM POUNDS PER DAY	DAILY AVG. CONCENTRATION	AVERAGE POUNDS PER DAY	SAMPLE TYPE	METHOD OF ANALYSIS	CONTINUOUS MONITORING	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
CHLORIDE 00940	75	69	1,314	107	7,622	1,167	6,769	CONT	DYLY	STD MTHD	ABS
CYANIDE 00720	W < 0.1	< 0.1	< 0.1	< 0.01	< 0.58	< 0.1	< 0.58	"	"	"	"
FLUORIDE 051	0.30	0.30	1.40	0.11	8.12	1.16	6.73	"	"	"	"
ALUMINUM-TOTAL 01105	W 855	215	320	< 1	2	293	2	"	"	"	"
ANTIMONY-TOTAL 01097	138	122	458	< 1	3	433	3	"	"	"	"
ARSENIC-TOTAL 01002	23	19	31	< 1	< 1	30	< 1	"	"	"	"
BARIUM-TOTAL 01007	W < 10							COMP	"	"	"
BERYLLIUM-TOTAL 01012	W < 10							"	"	"	"
BORON-TOTAL 01022	W 40							"	"	"	"
MIUM-TOTAL 7	W < 50	< 50	< 50	< 0.1	< 0.1	< 50	< 0.1	"	"	"	"

# PART B

(Office use only)

Discharge Serial No.  
000205-001

B-2. (cont.)

## CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

Intake		Discharge									
PARAMETER AND CODE	UNTREATED INTAKE WATER	TREATED INTAKE WATER	MAXIMUM CONCENTRATION	MAXIMUM POUNDS PER DAY PER PROCESS UNIT	MAXIMUM POUNDS PER DAY	DAILY AVG. CONCENTRATION	AVERAGE POUNDS PER DAY	SAMPLE TYPE	SAMPLE FREQUENCY	METHOD OF ANALYSIS	CONTINUOUS MONITORING
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
CALCIUM-TOTAL 00916	W 49.3	32.1	25.2	2.1	146.2	23.8	138.1	CONT	DYLY	STD MTHD	ABS
CHROMIUM-TOTAL 01034	12	7	74	< 1	< 1	46	< 1	CONT	"	"	"
COBALT-TOTAL 0037	W < 10							COMP	"	"	"
COPPER-TOTAL 01042	13	13	32	< 1	< 1	25	< 1	CONT	"	"	"
IRON-TOTAL 01045	1,133	84	297	< 1	2	271	2	CONT	"	"	"
LEAD-TOTAL 01051	W < 10	< 10	< 10	< 1	< 1	< 10	< 1	COMP	"	"	"
MAGNESIUM-TOTAL 00927	W 8	5	6	< 1	34	5	29	CONT	"	"	"
MANGANESE-TOTAL 01055	W 52	5	10	< 1	< 1	9	< 1	CONT	"	"	"
MERCURY-TOTAL 71900	W < 0.5	< 0.5	< 0.5			< 0.5		COMP	"	"	"
YBDENUM-TOTAL 2	W < 10							COMP	"	"	"

# PART B

(Office use only)

Discharge Serial No.  
000205-001

## B-2. (cont.) CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

Intake	Discharge										
PARAMETER AND CODE	UNTREATED INTAKE WATER	TREATED INTAKE WATER	MAXIMUM CONCENTRATION	MAXIMUM POUNDS PER DAY PER PROCESS UNIT	MAXIMUM POUNDS PER DAY	DAILY AVG. CONCENTRATION	AVERAGE POUNDS PER DAY	SAMPLE TYPE	SAMPLE FREQUENCY	METHOD OF ANALYSIS	CONTINUOUS MONITORING
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
NICKEL-TOTAL 01067	W <u>20</u>							COMP	DYLY	STD MTHD	ABS
POTASSIUM-TOTAL 00937	W 4.98	4.78	3.23	0.26	18.74	2.98	17.29	CONT	"	"	"
NIUM-TOTAL	W <u>40</u>							COMP	"	"	"
SILVER-TOTAL 01077	W <u>&lt; 10</u>							COMP	"	"	"
SODIUM-TOTAL 00929	24	80	1,682	137	9,757	1,422	8,249	CONT	"	"	"
THALLIUM-TOTAL 01059	W <u>&lt; 100</u>							COMP	"	"	"
TIN-TOTAL 01102	W <u>&lt; 10</u>							COMP	"	"	"
TITANIUM-TOTAL 01152	< W 400	< 400	< 400	< 1	< 2	< 400	< 2	CONT	"	"	"
ZINC-TOTAL 01092	39	22	62	< 1	< 1	51	< 1	CONT	"	"	"
AND GREASE 00550	A	A	A			A		COMP	"	"	"

# PART B

(Office use only)

Discharge Serial No.

000205-001

B-2. (cont.)

## CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

Intake	Discharge										
PARAMETER AND CODE	UNTREATED INTAKE WATER	TREATED INTAKE WATER	MAXIMUM CONCENTRATION	MAXIMUM POUNDS PER DAY PER PROCESS UNIT	MAXIMUM POUNDS PER DAY	DAILY AVG. CONCENTRATION	AVERAGE POUNDS PER DAY	SAMPLE TYPE	METHOD OF ANALYSIS	CONTINUOUS MONITORING	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
PHENOLS 32730	ND*	ND	ND			ND		COMP	DYLY	STD MTHD	ABS
SURFACTANTS 38260	W 0.01	ND	ND			ND		"	"	"	"
CHLORIDES*	ND	ND	ND			ND		"	"	"	"
CHLORINATED HYDRO- CARBONS* (EXCEPT PESTICIDES) 74052	ND	ND	ND			ND		"	"	"	"
PESTICIDES* 74053	ND	ND	ND			ND		"	"	"	"

\*Name specific compound(s) and fill in the required data for each. Use extra blanks at the end of the form and the "Remarks" space as necessary.

\* ND = NOT DETECTABLE.

# PART B

(Office use only)

Discharge Serial No.

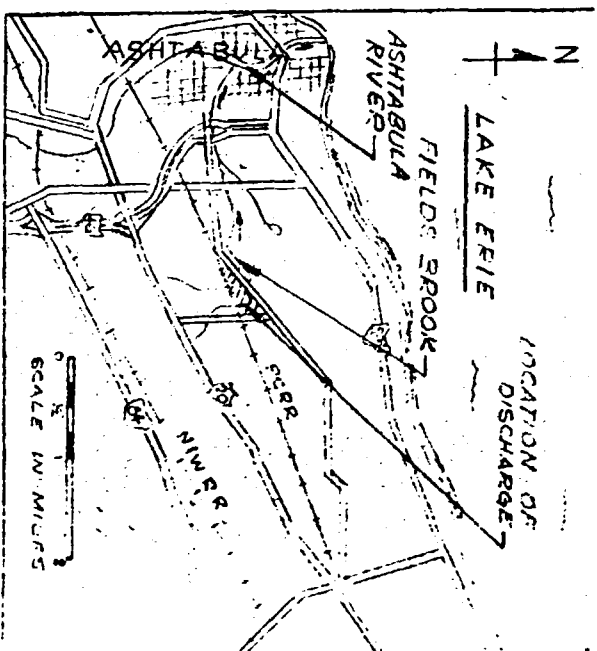
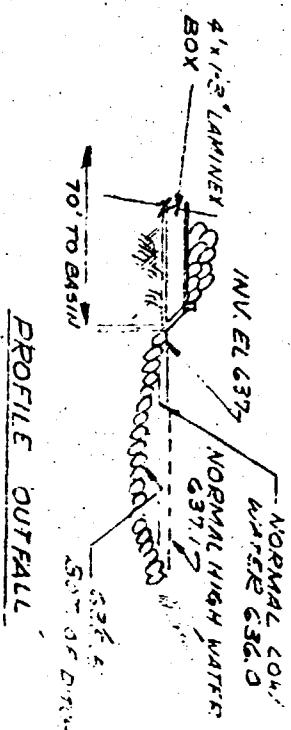
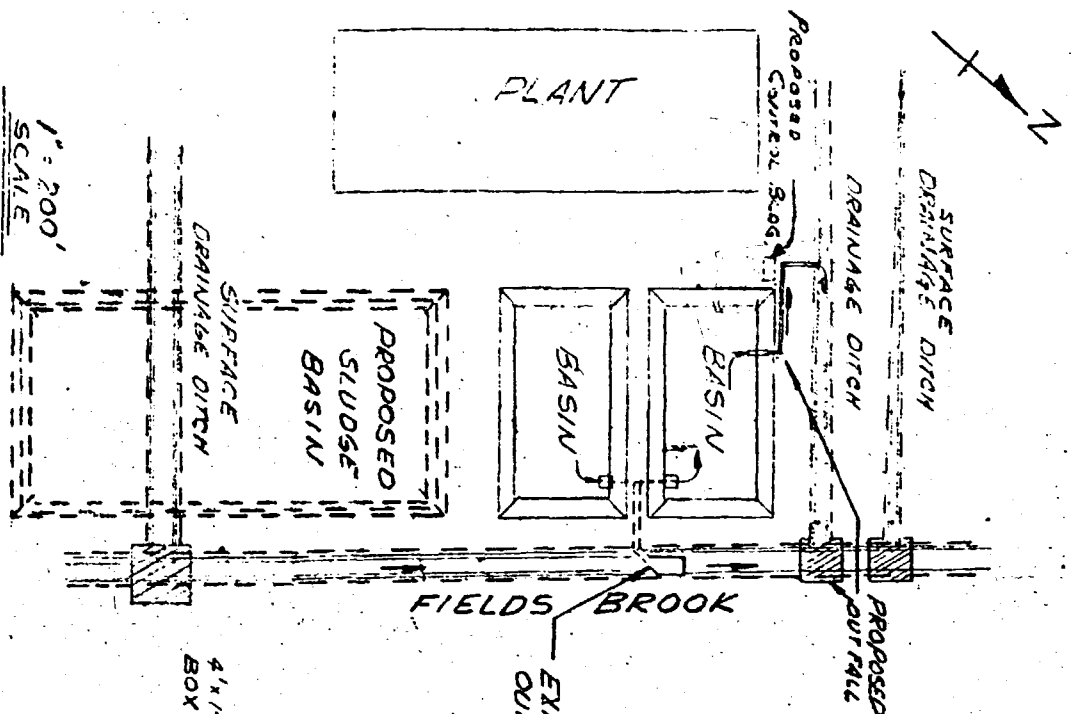
000205-001

## B-3. RADIOACTIVE PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-3)

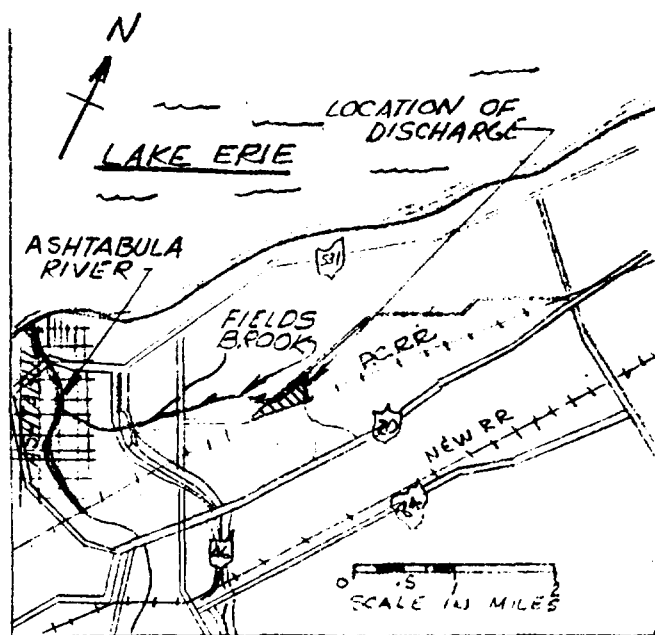
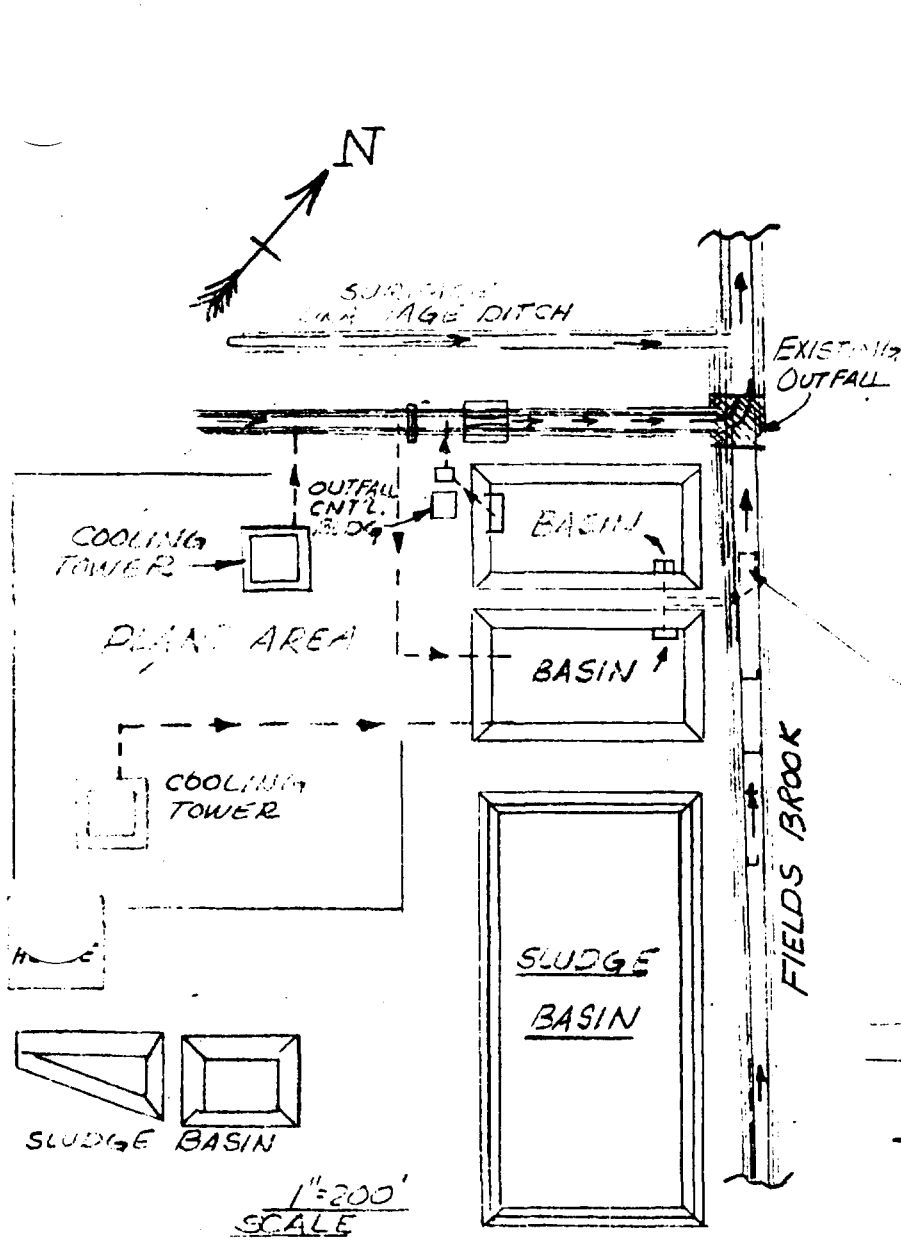
Intake	Discharge						
UNTREATED INTAKE WATER	TREATED INTAKE WATER	AVERAGE (DAILY)	MINIMUM (OPERATING YEAR)	MAXIMUM (OPERATING YEAR)	SAMPLE FREQUENCY	CONTINUOUS MONITORING	
(1)	(2)	(1)	(1)	(1)	(1)	(1)	(1)
PARAMETER AND CODE	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ALPHA-TOTAL 01501	<u>0.36</u>	<u>0.78</u>	<u>6.6</u>		<u>10.0</u>	<u>0</u>	<u>A</u>
ALPHA COUNTING ERROR 01502	<u>0.40</u>	<u>0.59</u>	<u>4.5</u>		<u>13.5</u>	<u>0</u>	<u>A</u>
BETA-TOTAL 03501	<u>5.56</u>	<u>4.14</u>	<u>7.26</u>		<u>10.7</u>	<u>0</u>	<u>A</u>
BETA COUNTING ERROR 03502	<u>0.13</u>	<u>0.62</u>	<u>6.73</u>		<u>10.5</u>	<u>0</u>	<u>A</u>
GAMMA-TOTAL 05501	<u>7.8</u>	<u>45.2</u>	<u>7.8</u>		<u>7.8</u>	<u>0</u>	<u>A</u>
GAMMA COUNTING ERROR 05502	<u>0</u>	<u>4.90</u>	<u>=</u>		<u>=</u>	<u>0</u>	<u>A</u>
TRITIUM-TOTAL 07000	<u>(3)</u>	<u>=</u>	<u>=</u>		<u>=</u>	<u>=</u>	<u>=</u>
TRITIUM COUNTING ERROR 07001	<u>=</u>	<u>=</u>	<u>=</u>		<u>=</u>	<u>=</u>	<u>=</u>

### B-4. REMARKS

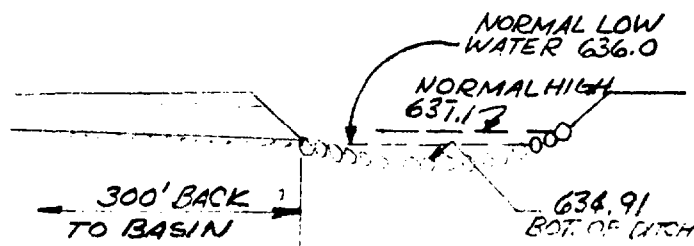
- (1) SPOT SAMPLES - ANALYSES FOR THREE DAYS WERE AVERAGED FOR AVERAGE CONCENTRATION,  
HIGH ANALYSES FOR THREE DAYS WAS HIGH.  
ONE SPOT SAMPLE ANALYZED, NO AVERAGES CONSIDERED.  
DOES NOT APPLY TO OPERATIONS.



Discharge Location (001)  
 into FIELDS BROOK  
 at Ashtabula Plant: TIDox® Operation  
 County of ASHTABULA, State OHIO  
 Application by SHERWIN-WILLIAMS CHEM. DIV.  
 SHEET 1 of 4  
 Date 6-18-71



- FORMER OUTFALL



PROFILE, OUTFALL

DISCHARGE LOCATION (001)  
 INTO: FIELDS BROOK  
 AT: ASHTABULA PLANT: TIDOX<sup>®</sup> OPERATION  
 COUNTY of: ASHTABULA , STATE: OHIO  
 APPLICATION BY: SHERWIN-WILLIAMS CHEM. DIV.

DATE: 1-5-73

SHERWIN-WILLIAMS CHEMICALS DIV.  
P. O. Box No. 310  
ASHTABULA, OHIO 44004

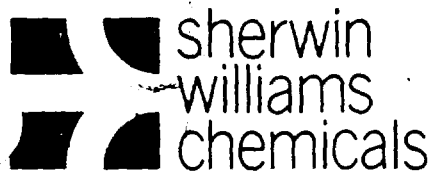
ADDENDUM TO REVISED APPLICATION

000205-001

- (1) ORIGINAL APPLICATION, PART A, SECTION 11, PAGE 2 OF 5, ITEM 22, FLOWS, SUCCEEDING CALCULATIONS WERE BASED ON FLOWS PRESENTED IN THE ORIGINAL APPLICATION AS FOLLOWS:

	<u>UNTREATED INTAKE WATER</u>	<u>TREATED INTAKE WATER</u>	<u>AVERAGE (DAILY)</u>	<u>MINIMUM (OPERATING YEAR)</u>	<u>MAXIMUM (OPERATING YEAR)</u>
FLOWS GALLONS PER DAY	1,297,000	745,000	348,000	239,000	432,000

THE REVISED APPLICATION, PART A, SECTION 11, PAGE 2 OF 5, ITEM 22, FLOWS, SUCCEEDING CALCULATIONS ARE BASED ON FLOWS PRESENTED IN THE REVISED APPLICATION.



P. O. Box 310  
2900 Middle Road  
Ashtabula, Ohio 44004  
Phone: 216-998-1825

JULY 16, 1973

MR. JOHN R. KELLY, P.E.  
U. S. ENVIRONMENTAL PROTECTION AGENCY  
REGION V  
ONE, NORTH WACKER DRIVE  
CHICAGO, ILLINOIS 60606

REFERENCE: (1) ASHTABULA PLANT  
SHERWIN-WILLIAMS CHEMICAL DIVISION  
THE SHERWIN-WILLIAMS COMPANY  
P. O. Box 310  
ASHTABULA, OHIO 44004  
N.P.D.E.S. APPLICATION  
No. OH 070 OXO 000205

(2) MEETING, JULY 5, 1973  
REPRESENTATIVES OF THE U.S.E.P.A.  
AND THE SHERWIN-WILLIAMS COMPANY

TOPIC: ADDITIONAL INFORMATION FOR PARAMETER  
LIMITS, EFFLUENT TREATED WASTE WATER

PRESENT: U.S.E.P.A.:  
G. A. AMENDOLA, OHIO DISTRICT  
J. R. KELLY, P.E., REGION V  
R. D. LUSS, ATTORNEY AT LAW, REGION V  
STASYS V. RASTONIS, PHYSICAL SCIENTIST, REGION V  
THE SHERWIN-WILLIAMS COMPANY:  
C. G. BRETZ, ATTORNEY AT LAW,  
THE SHERWIN-WILLIAMS COMPANY  
C. R. SADLER, SUPERVISOR, ENGINEERING SERVICES,  
THE SHERWIN-WILLIAMS CHEMICALS DIVISION  
A. C. THOMAS, ASSISTANT DIRECTOR, ENVIRONMENTAL  
CONTROL, THE SHERWIN-WILLIAMS COMPANY

DEAR MR. KELLY:

ON JULY 10, 1973, REQUESTED LIMITATIONS WERE VERBALLY TRANSMITTED BY PHONE  
TO STASYS V. RASTONIS, AND WERE AS FOLLOWS:

PARAMETERS	DISCHARGE LIMITATIONS POUNDS PER DAY		OTHER LIMITATIONS MILLIGRAMS PER LITER	
	DAILY	DAILY	AVERAGE	MAXIMUM
	AVERAGE	MAXIMUM		
TOTAL SUSPENDED SOLIDS	40	75	8.0	17.0
TOTAL DISSOLVED SOLIDS	31,000	38,000	5,000	5,700
TOTAL CHROMIUM	0.3	0.6	0.06	0.10
COPPER	0.3	0.6	0.06	0.10
ZINC	0.3	0.6	0.06	0.10

BASES FOR THESE REQUESTS WERE CALCULATIONS ASSUMING THE DATA FOR EACH PARAMETER FITTED A NORMAL STATISTICAL DISTRIBUTION.

TABLE 1 SHOWED THE TABULATED DATA FOR 38 DAYS OF ANALYSIS OF THE EFFLUENT DISCHARGE FOR TOTAL SUSPENDED SOLIDS AND TOTAL DISSOLVED SOLIDS FROM AUGUST 21, 1972 THROUGH MAY 29, 1973.

1. EFFLUENT FLOW

BASIC TO ALL CALCULATIONS WAS A FLOW COMPUTATION. TOTAL FLOW DATA, FROM ABOVE-REFERENCED PERIOD, WAS PLOTTED ON NORMAL PROBABILITY PAPER, FIGURE 1. MEAN FLOW EQUALED 463 GALLONS PER MINUTE (666,720 GALLONS PER DAY) AND AT PLUS ONE STANDARD DEVIATION, 597 GALLONS PER MINUTE (859,680 GALLONS PER DAY). AT THE UPPER 95% CONFIDENCE LIMIT, THE FLOW WAS 710 GALLONS PER MINUTE (1,022,400 GALLONS PER DAY).

2. DISCHARGES: TOTAL SUSPENDED SOLIDS

CONCENTRATION OF TOTAL SUSPENDED SOLIDS WAS PLOTTED ON NORMAL PROBABILITY PAPER, FIGURE 2. THE MEAN WAS 3.7 MILLIGRAMS PER LITER AND AT PLUS ONE STANDARD DEVIATION, 7.0 MILLIGRAMS PER LITER. TO FORECAST THE LIMITS, THE CONCENTRATION, 7.0 MILLIGRAMS PER LITER, WAS USED WITH THE MEAN FLOW, 463 GALLONS PER MINUTE, FOR AVERAGE POUNDS PER DAY, AND A ONE-DAY EXPERIENCED MAXIMUM FLOW, 890 GALLONS PER MINUTE (1,281,600 GALLONS PER DAY) TABLE 1, No. 38 WITH 7.0 MILLIGRAMS PER LITER WAS USED TO CALCULATE THE ONE-DAY MAXIMUM OF POUNDS PER DAY. SEE TABLE 2.

3. DISCHARGES: TOTAL DISSOLVED SOLIDS

CONCENTRATION OF TOTAL DISSOLVED SOLIDS WAS PLOTTED ON PROBABILITY PAPER, FIGURE 3. THE MEAN WAS 4,350 MILLIGRAMS PER LITER. TO FORECAST THE LIMITS FOR TOTAL DISSOLVED SOLIDS, THE AVERAGE CONCENTRATION, 4,350 MILLIGRAMS, WAS USED WITH 597 GALLONS PER MINUTE (859,680 GALLONS PER DAY) EQUAL TO THE MEAN FLOW PLUS ONE STANDARD DEVIATION TO CALCULATE THE AVERAGE POUNDS PER DAY, RESULTS SEE TABLE 2.

FOR THE ONE-DAY MAXIMUM OF POUNDS PER DAY, TOTAL DISSOLVED SOLIDS, THE UPPER 95% CONFIDENCE LIMIT, 710 GALLONS PER MINUTE (1,022,400 GALLONS PER DAY) AND THE MEAN CONCENTRATION, 4,350 MILLIGRAMS PER LITER, WERE USED TO CALCULATE THE MAXIMUM POUNDS PER DAY, SEE TABLE 2.

4. CONCENTRATIONS: TOTAL SUSPENDED AND TOTAL DISSOLVED SOLIDS

FOR TOTAL SUSPENDED SOLIDS, THE REQUESTED AVERAGE CONCENTRATION, 8.0 MILLIGRAMS PER LITER, WAS APPROXIMATELY EQUAL TO THE AVERAGE PLUS A STANDARD DEVIATION, SEE FIGURE 2. THE MAXIMUM CONCENTRATION, 17 MILLIGRAMS PER LITER, WAS REQUESTED BECAUSE OF THE MAXIMUM EXPERIENCED CONCENTRATION, SEE TABLE 1, NO. 4.

REQUESTED MAXIMUM, 5,700 MILLIGRAMS PER LITER, FOR TOTAL DISSOLVED SOLIDS, WAS THE EXPERIENCED MAXIMUM CONCENTRATION, TABLE 1, NO. 38. THE AVERAGE TOTAL DISSOLVED SOLIDS CONCENTRATION, 5,000 MILLIGRAMS PER LITER, WAS THE AVERAGE PLUS ONE STANDARD DEVIATION, SEE FIGURE 3.

TABLE 3 SHOWED THE TABULATED DATA FOR 19 DAYS OF ANALYSIS FOR A PERIOD FROM APRIL 19, 1971 THROUGH MAY 22, 1973, FOR THE PARAMETERS TOTAL CHROMIUM, COPPER, AND ZINC IN THE INFLUENT RAW LAKE ERIE WATER TO THE PLANT AND EFFLUENT TREATED WASTE WATER DISCHARGE.

5. DISCHARGES: TOTAL CHROMIUM, COPPER, AND ZINC

TABLES 3, 4, AND 5 WERE PREPARED TO DEMONSTRATE THE REASONS FOR THE REQUESTED PARAMETER LIMITS.

TABLE 3 SHOWED THE SUM TOTAL OF DATA FOR THE CONCENTRATION OF TOTAL CHROMIUM, COPPER, AND ZINC INFLUENT INTO AND EFFLUENT FROM THE PLANT. FOR THE EFFLUENT WASTE WATER DISCHARGED, THE AVERAGE CONCENTRATION, MILLIGRAMS PER LITER, WERE 0.046, 0.054, AND 0.047 WITH MAXIMUMS OF 0.17, 0.3, AND 0.3 FOR TOTAL CHROMIUM, COPPER, AND ZINC RESPECTIVELY.

TABLE 4 DEMONSTRATED THE EFFECT OF AN INCREASE OF TOTAL CHROMIUM, COPPER, AND ZINC INFLUENT INTO THE PLANT WITH INCREASED INFLUENT WATER. IT WAS NOTED FROM THE MINIMUM INFLUENT WATER, SEPTEMBER, 1972 TO THE MAXIMUM INFLUENT WATER, JANUARY, 1973, THE PLANT SUSTAINED AN INCREASE OF 25.0%, 18.2%, 26.3% TOTAL CHROMIUM, COPPER, AND ZINC RESPECTIVELY, IN POUNDS PER DAY INFLUENT.

TABLE 5 TABULATED THE CALCULATIONS FOR EFFLUENT FLOW VERSUS EACH PARAMETER. AVERAGE DISCHARGE FOR EACH PARAMETER, POUNDS PER DAY, WAS CALCULATED USING THE MEAN FLOW, 463 GALLONS PER MINUTE, AND AVERAGE CONCENTRATION, TABLE 3, RESULTING IN 0.25, 0.30, AND 0.26

MR. J. R. KELLY, P.E.  
U.S.E.P.A. - REGION V

4.

POUNDS PER DAY FOR TOTAL CHROMIUM, COPPER, AND ZINC RESPECTIVELY. THE MAXIMUM ONE-DAY DISCHARGE WAS CALCULATED USING AN EXPERIENCED MAXIMUM FLOW, 890 GALLONS PER MINUTE, AND THE AVERAGE CONCENTRATIONS (TABLE 3) RESULTING IN 0.49, 0.58, AND 0.50 POUNDS PER DAY FOR TOTAL CHROMIUM, COPPER, AND ZINC RESPECTIVELY.

6. CONCENTRATIONS: TOTAL CHROMIUM, COPPER, AND ZINC

REQUESTED AVERAGE CONCENTRATIONS, MILLIGRAMS PER LITER, FOR THE PARAMETERS WERE THE AVERAGE FOR EACH PARAMETER IN THE EFFLUENT FROM TABLE 3.

MAXIMUM CONCENTRATIONS REQUESTED WERE 0.1 MILLIGRAMS PER LITER FOR EACH, TOTAL CHROMIUM, COPPER, AND ZINC, AND NOT THE MAXIMUMS EXPERIENCED, 0.17, 0.3, AND 0.3 MILLIGRAMS PER LITER FOR TOTAL CHROMIUM, COPPER, AND ZINC RESPECTIVELY, TABLE 3.

VERY TRULY YOURS,

SHERWIN-WILLIAMS CHEMICALS



C. R. SADLER  
SUPERVISOR  
ENGINEERING SERVICES GROUP

CRS/ca

CC: MR. ROBERT D. LUSS  
MR. STASYS V. RASTONIS  
U. S. ENVIRONMENTAL PROTECTION  
AGENCY - REGION V  
ONE, NORTH WACKER DRIVE  
CHICAGO, ILLINOIS 60606

ATTACHMENTS

BCC: A. C. THOMAS  
C. G. BRETZ  
F. C. GAUGUSH  
H. L. BERKOWITZ  
G. F. WYMAN

TABLE 1

DISCHARGES: TOTAL SUSPENDED SOLIDS AND TOTAL DISSOLVED SOLIDS

No.	EFFLUENT FLOW		TOTAL SUSPENDED SOLIDS		TOTAL DISSOLVED SOLIDS	
	GAL. MIN.	GAL. DAY	MG. LITER	LBS. DAY	MG. LITER	LBS. DAY
1	390	516,600	7	32.8	3,755	17,587
2	376	541,440	1	4.5	3,890	17,566
3	377	542,880	0	0	5,402	24,458
4	350	504,000	3	12.6	4,869	20,466
5	363	522,720	17	74.1	4,611	20,102
6	515	741,600	3	18.6	4,506	27,869
7	490	705,600	5	29.4	3,907	22,992
8	400	576,000	1	4.8	3,808	18,293
9	530	763,200	11	70.0	4,409	28,064
10	480	691,200	8	46.1	4,983	28,725
11	495	712,800	2	11.9	3,821	22,714
12	500	720,000	1	6.0	5,007	30,066
13	700	1,080,000	6	50.4	3,341	28,087
14	510	734,400	2.4	14.7	3,728	22,834
15	390	516,000	6.4	30.0	3,805	17,822
16	490	705,600	3	17.6	4,647	27,346
17	530	763,200	4	25.5	5,441	34,632
18	405	583,200	1.6	7.8	5,011	24,373
19	495	712,800	1.2	7.1	4,307	25,604
20	560	806,400	8	53.8	4,471	30,069
21	510	734,400	3.2	19.6	4,122	25,247
22	570	820,800	2	13.7	4,304	29,463
23	490	705,600	1.6	9.4	3,816	22,456
24	500	720,000	2	12.0	5,230	30,264
25	420	604,800	1.6	8.1	5,040	25,422
26	420	604,800	2.8	14.1	3,500	17,654
27	380	547,200	1.6	7.3	4,845	22,111
28	400	576,000	0.4	1.9	4,500	21,617
29	290	417,600	2.8	9.8	941	3,227
30	420	604,800	2.0	10.1	5,127	25,861
31	460	662,400	4.4	24.3	5,519	30,489
32	420	604,800	4	20.2	4,750	23,959
33	480	691,200	4.4	25.4	4,090	23,577
34	390	561,600	0.8	3.7	4,942	23,147
35	600	864,000	4.8	34.6	5,317	38,313
36	390	516,000	3.2	15.0	5,591	26,187
37	150	216,000	7.2	13.0	1,402	2,526
38	890	1,281,600	2	21.4	5,730	61,245
AVERAGE	461	664,100	3.7	20.6	4,381	24,810
HIGH	890	1,281,600	17.0	74.1	5,730	61,245
LOW	150	216,000	0	0	941	2,526

TABLE 2

COMPARISON OF REQUESTED LIMITS WITH CALCULATION OF PROBABLE PROJECTED LIMITS

EFFLUENTS CHARACTERISTICS	EFFLUENT FLOW		DISCHARGE LIMITATIONS LBS. PER DAY		CONCENTRATION LIMITATIONS MG/LITER	
	<u>GALS/MIN</u>	<u>GALS/DAY</u>	<u>AVERAGE</u>	<u>MAXIMUM</u>	<u>AVERAGE</u>	<u>MAXIMUM</u>
<u>REQUESTED</u>						
TOTAL SUSPENDED SOLIDS			40	75	8	17
TOTAL DISSOLVED SOLIDS			31,000	38,000	5,000	5,700
<u>CALCULATED</u>						
TOTAL SUSPENDED SOLIDS	890 463	1,281,600 666,720	38.9	74.8	7 7	
TOTAL DISSOLVED SOLIDS	710 597	1,022,400 859,680	31,200	37,100	4,350 4,350	

TABLE 3

COMPARISON OF CONCENTRATIONS OF TOTAL CHROMIUM (Tot. Cr.), COPPER (Cu), AND ZINC (Zn)

No.	SAMPLE DATE	INFLUENT TO PLANT RAW LAKE ERIE WATER CONCENTRATION MG/LITER			EFFLUENT FROM PLANT TREATED WASTE WATER CONCENTRATION MG/LITER		
		Tot.Cr.	Cu	Zn	Tot.Cr.	Cu	Zn
1	4-19-71*	< 0.02	< 0.04	< 0.04	0.11	< 0.04	< 0.04
2	4-20-71*	< 0.02	< 0.04	< 0.04	0.03	< 0.04	< 0.04
3	4-21-71*	< 0.02	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04
4	8-25-71	< 0.01	0.01	< 0.01	0.10	0.3	0.3
5	8-16-71				< 0.01	0.2	< 0.01
6	8-27-71				< 0.01	0.02	< 0.01
7	10-28-72				0.03	0.01	0.03
8	10-29-72				0.02	0.02	0.02
9	10-30-72				< 0.01	0.02	0.04
10	11-2-72	< 0.01	0.02	0.08			
11	1-7-73	0.016	0.014	0.043	0.040	0.003	0.021
12	1-9-73	0.006	0.014	0.041	0.024	0.025	0.034
13	1-17-73	0.014	0.012	0.034	0.074	0.032	0.021
14	4-19-73	< 0.02	0.01	0.01	0.04	0.02	0.07
15	4-26-73	< 0.02	0.01	0.02	0.02	0.12	0.03
16	5-4-73	< 0.02	0.01	0.03	< 0.02	0.01	0.07
17	5-11-73	0.01	0.01	0.01	0.02	0.01	0.03
18	5-18-73	0.01	0.02	0.05	0.03	0.04	0.01
19	5-22-73	0.01	< 0.01	0.01	0.17	0.02	0.03
	AVERAGE	0.014	0.018	0.032	0.046	0.054	0.047
	MAXIMUM	< 0.020	< 0.040	0.050	0.17	0.3	0.3
	MINIMUM	0.006	< 0.010	< 0.010	0.01	0.01	< 0.01

\* SAMPLE ANALYSIS AND RESULTS FURNISHED BY U.S.E.P.A., WILLIAM L. WEST, OHIO DISTRICT OFFICE, CLEVELAND, OHIO.

TABLE 4

MONTH	INFLUENT WATER TO THE PLANT RAW LAKE ERIE WATER		AVERAGES FOR PARAMETERS INFLUENT WATER TO PLANT RAW LAKE ERIE WATER					
	M-GALS MONTH	DAYS MONTH	TOTAL CHROMIUM		COPPER		ZINC	
			MG LITER	LBS DAY	MG LITER	LBS DAY	MG LITER	LBS DAY
SEPT., 72	21,546	30	0.014	0.08	0.018	0.11	0.032	0.19
OCT., 72	22,557	31	0.014	0.08	0.018	0.11	0.032	0.19
JUNE, 73	23,033	30	0.014	0.09	0.018	0.12	0.032	0.20
NOV., 72	23,515	30	0.014	0.09	0.018	0.12	0.032	0.21
MAY, 73	24,515	31	0.014	0.09	0.018	0.12	0.032	0.21
FEB., 73	24,641	28	0.014	0.10	0.018	0.13	0.032	0.23
DEC., 72	25,298	31	0.014	0.09	0.018	0.12	0.032	0.22
APRIL, 73	25,581	30	0.014	0.10	0.018	0.13	0.032	0.23
MARCH, 73	27,040	31	0.014	0.10	0.018	0.13	0.032	0.23
JAN., 73	27,825	31	0.014	0.10	0.018	0.13	0.032	0.24
MAXIMUM INFLUENT				0.10		0.13		0.24
MINIMUM INFLUENT				0.08		0.11		0.19
NET DIFFERENCE				0.02		0.02		0.05
% INCREASE OVER MINIMUM				25.0		18.2		26.3

TABLE 5

VARIATION OF POUNDS PER DAY OF (1) TOTAL CHROMIUM, (2) COPPER, AND (3) ZINC AS THE RESULT OF ONE DAY'S EFFLUENT FLOWS IN GALLONS PER MINUTE:

DAILY FLOW DATA IN GALLONS PER MIN.	PARAMETERS IN POUNDS PER DAY FOR AVERAGE CONCENTRATIONS IN THE PLANT EFFLUENT					
	TOTAL CHROMIUM		COPPER		ZINC	
	MG LITER	LBS DAY	MG LITER	LBS DAY	MG LITER	LBS DAY
MAXIMUM, 890	0.046	0.40	0.054	0.58	0.047	0.50
AVERAGE, 463	0.046	0.25	0.054	0.30	0.047	0.26

REQUESTED LIMITATIONS FOR PARAMETERS  
TOTAL CHROMIUM, COPPER, AND ZINC.

REQUESTED LIMITATIONS	DISCHARGE LBS/DAY		CONCENTRATION MG/LITER	
	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE
TOTAL CHROMIUM	0.6	0.3	0.1	0.06
COPPER	0.6	0.3	0.1	0.06
ZINC	0.6	0.3	0.1	0.06

FIGURE 1

PLANT EFFLUENT FLOW, GALLONS PER MINUTE, VERSUS PROBABILITY

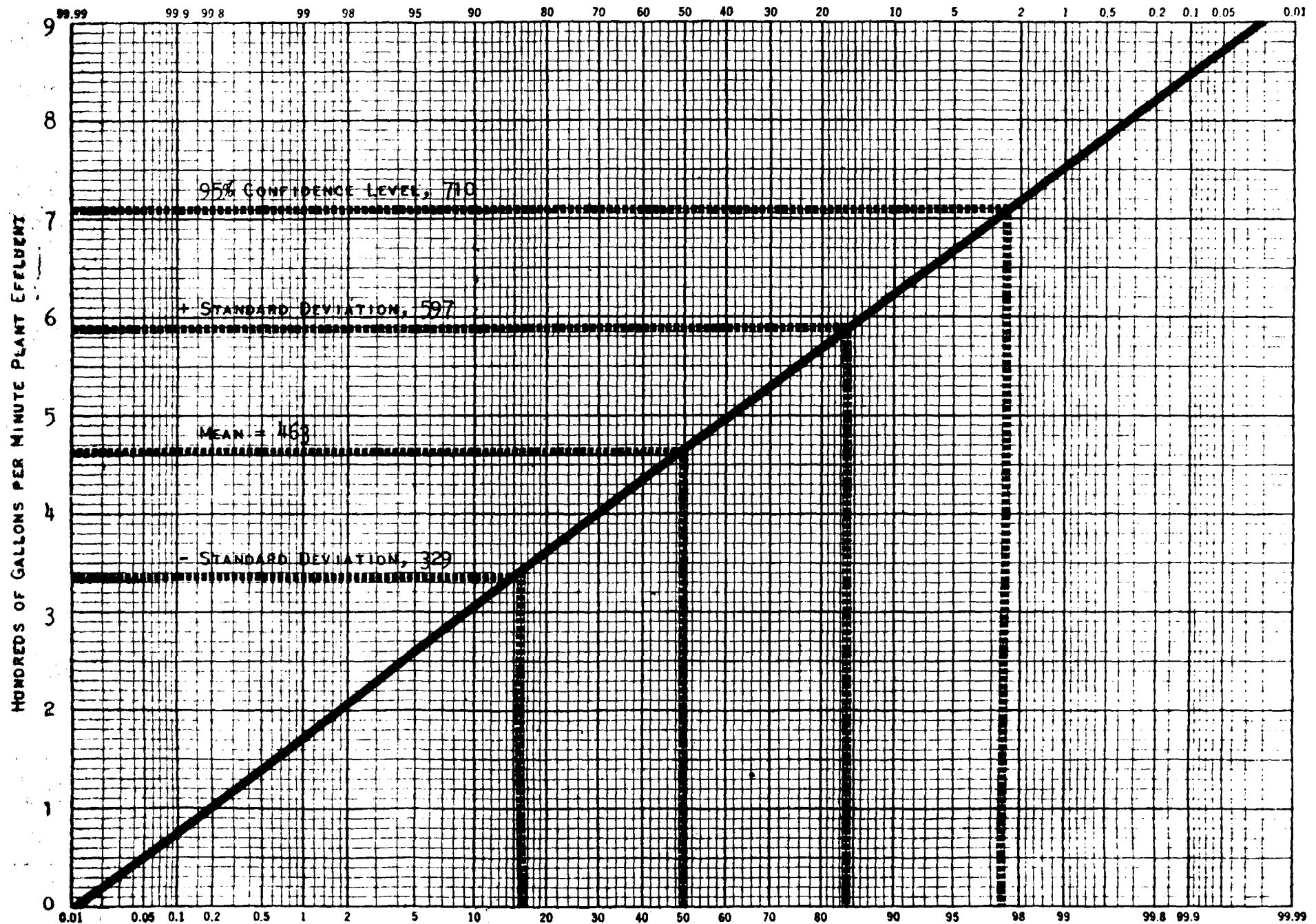


FIG. 2

CONCENTRATION (MG/LITER) OF TOTAL SUSPENDED SOLIDS VERSUS PROBABILITY

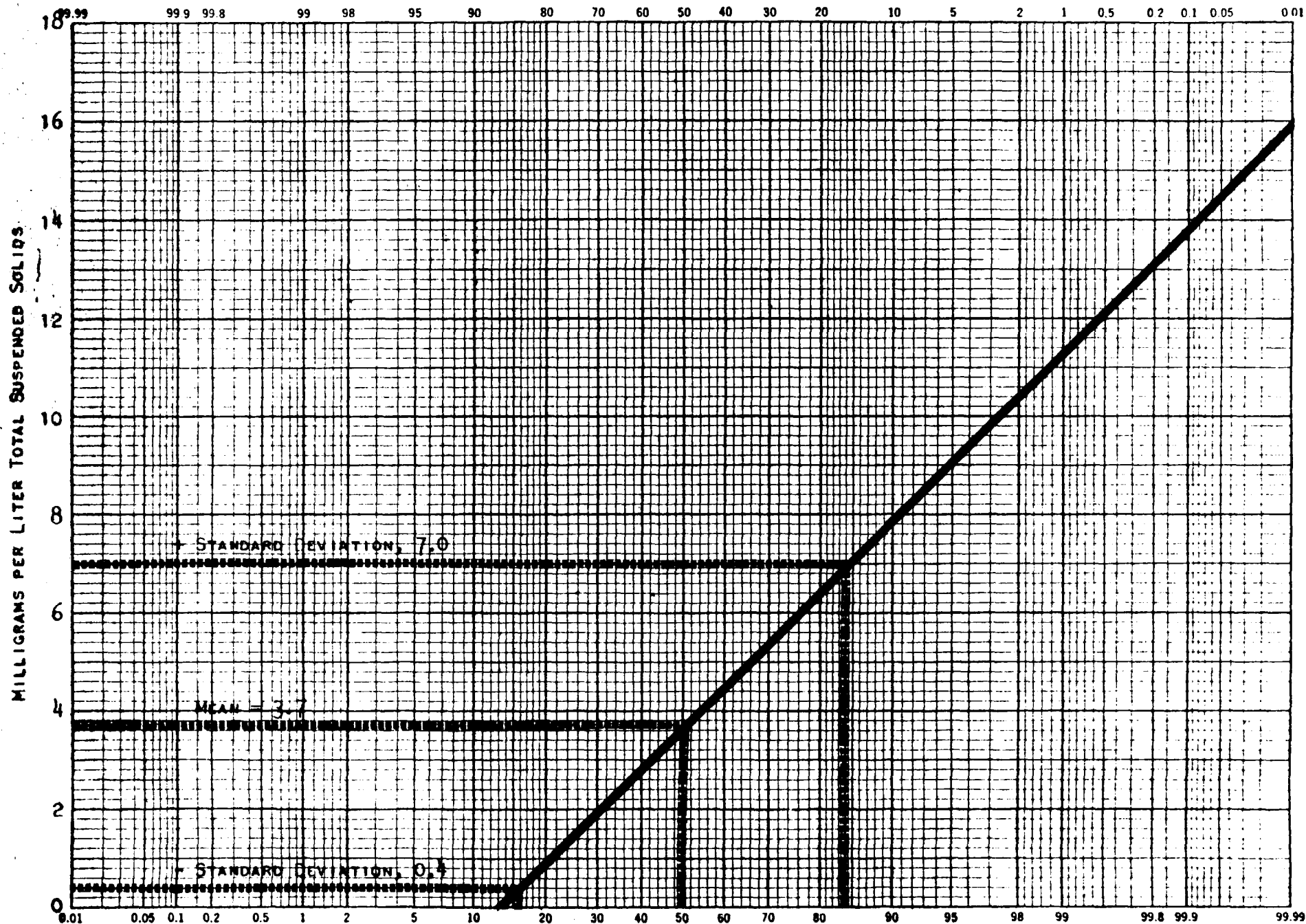
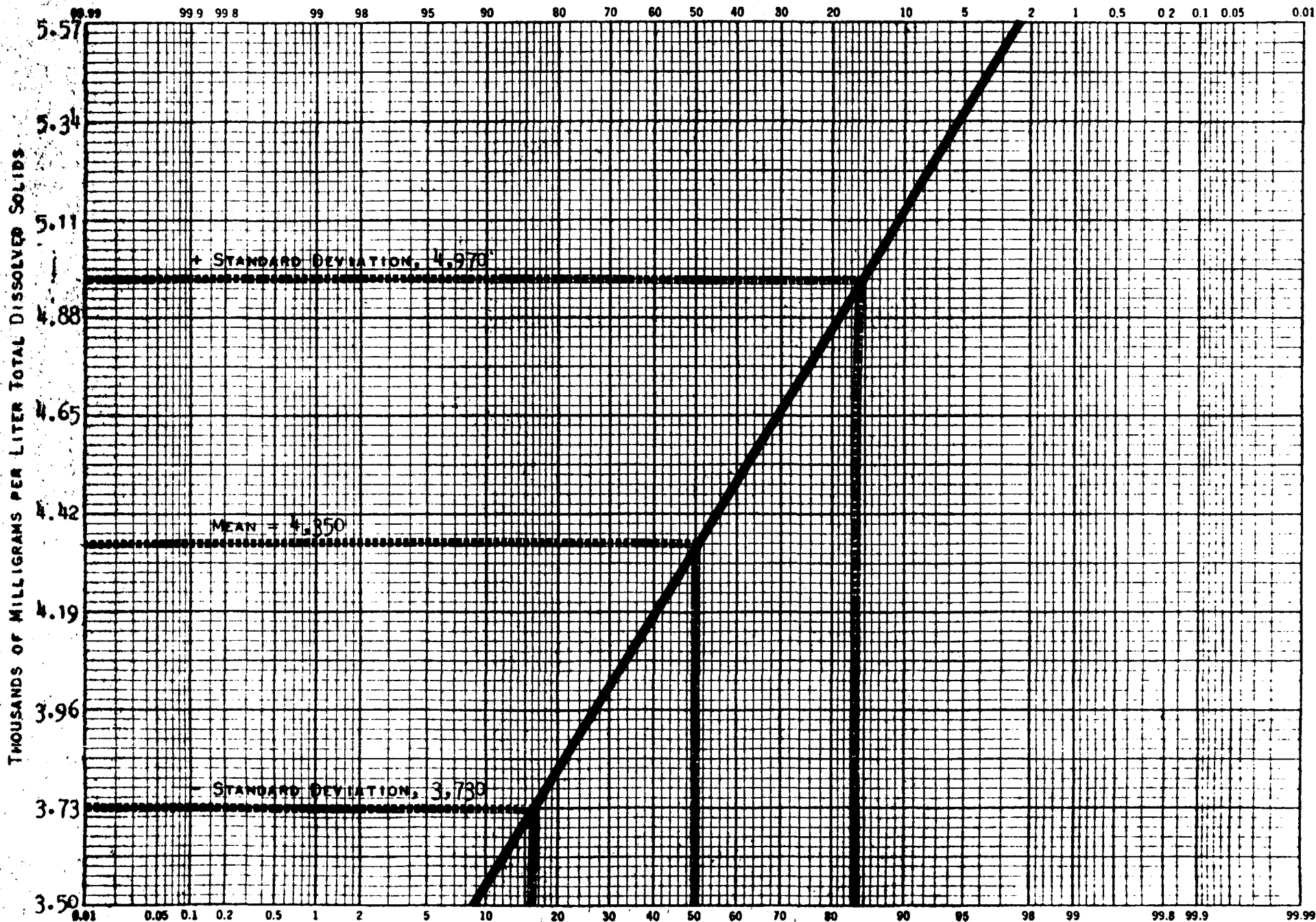


FIG. 3

CONCENTRATION (MG/LITER) OF TOTAL DISSOLVED SOLIDS VERSUS PROBABILITY





DEPARTMENT OF THE ARMY  
BUFFALO DISTRICT, CORPS OF ENGINEERS  
1776 NIAGARA STREET  
BUFFALO, NEW YORK 14207  
(716) 876-5454

IN REPLY REFER TO NCBCO-S

9 May 1972

G.T. Wyman, Plant Manager  
Sherwin Williams Chemicals Division  
P.O. Box 310  
Ashtabula, OH 44004

RECEIVED

MAY 15 1972

THE SHERWIN-WILLIAMS CO.  
G. F. WYMAN

Dear Sir:

We are reaching the point of finalizing your Application No. 000205 for a Department of the Army permit to discharge industrial effluent from your facility at Ashtabula, Ohio under Section 209.131, Title 33, Code of Federal Regulations.

The Environmental Protection Agency has advised that your application is complete. They have also requested the State of Ohio to furnish the State Certification required by Section 21 of PL 91-224, the Water Quality Improvement Act of 1970.

Inclosed is a tabulation of parameters that were reported on your application. Please review the entries to determine their accuracy. This tabulation will be part of the public notice to be issued by our office at a future date. If additional information is needed on the application, it is indicated in the comments column on the tabulation sheet.

Subparagraph (g)(2) of Section 209.131 states in part "An application submitted by a corporation must be signed by the principal executive officer of that corporation or by an official of the rank of corporate vice president or above who reports directly to such principal executive officer and who has been designated by the principal executive officer to make such applications on behalf of the corporation...."

Please advise us whether G.F. Schlaudecker who signed the application, is the principal executive officer of your firm. If not, you must send us evidence of his rank (vice president or above) and that the principal executive officer authorized him to sign the application for your firm. We would also appreciate having the appropriate officer sign and return to us the attached certification. Please return the requested information within 30 days from the date of this letter.

We appreciate your cooperation in the processing of this application.

Sincerely yours,

*Cordon A. Yesser*  
CORDON A. YESSER, Chief  
Construction-Operations Division

Incl  
as

Document "Q"

APPLICATION NUMBER

000205

DISCHARGE SERIAL NUMBER

001

## PARAMETERS OF INTAKE WATER AND DISCHARGE

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION	PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION
UNITS milligrams/liter = ppm				UNITS milligrams/liter = ppm			
ALKALINITY (as CaCO <sub>3</sub> )	94	3/	59	POTASSIUM - TOTAL	1.0	0.8	7.0
B.O.D. 5-DAY	4	4	4	SODIUM - TOTAL	1.0	4	1363.33
CHEMICAL OXYGEN DEMAND (C.O.D.)	<10	<10	60	OIL AND GREASE	*	*	A
TOTAL SOLIDS	325	325	4665	SURFACTANTS	**W 0.014	ND	
TOTAL DISSOLVED SOLIDS	300	300	4661	ALGICIDES	ND	ND	
TOTAL SUSPENDED SOLIDS	25	25	4	CHLORINATED HYDRO- CARBONS (EXCEPT PESTICIDES)	ND	ND	
TOTAL VOLATILE SOLIDS	94	94	80	PESTICIDES	ND	ND	
AMMONIA NITROGEN	<0.5	<0.5	<0.5	UNITS picocurie/liter			
NITRATE (as N)	<1	<1	1.0	ALPHA - TOTAL			
PHOSPHORUS TOTAL (as P)	<0.2	<0.2	<0.2	ALPHA COUNTING ERROR			
ACIDITY (as CaCO <sub>3</sub> )	10	10	6	BETA - TOTAL			
TOTAL ORGANIC CARBON (T.O.C.)	6	29	19.7	BETA COUNTING ERROR			
TOTAL HARDNESS	85.9	118.66	80.9	GAMMA - TOTAL			
NITRITE (as N)	<0.001	0.005	0.0057	GAMMA COUNTING ERROR			
ORGANIC NITROGEN	**W 0.65			TRITIUM - TOTAL			
PHOSPHORUS-ORTHO (as P)	0.065	0.033	0.11	TRITIUM COUNTING ERROR			
SULFATE	4.3	5.2	449.33	COMMENTS:			
SULFIDE	0.012	0.014	0.0147	Parameters reported are those required for this industry's classification.			
SULFITE	** W 4/			3/ THE VALUE FOR PARAMETER ALKALINITY IN COLUMN (2) IS MISSING. SHOULD THIS VALUE READ (35) PER YOUR LETTER OF JULY 29, 1972?			
BROMIDE	**W 0.44			4/ IS THERE A VALUE MISSING FOR PARAMETER SULFITE IN COLUMN (1)?			
CHLORIDE	21	20	1,453.33				
CYANIDE	0.063	0.0111	0.2420				
FLUORIDE	0.15	1.4	0.2910				
CALCIUM - TOTAL	35	35	13.667				
MAGNESIUM - TOTAL	3.0	7.6	11.3333				

APPLICATION NUMBER

000205

DISCHARGE SERIAL NUMBER

001

## PARAMETERS OF INTAKE WATER AND DISCHARGE

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCENTRATION
	<b>5/</b> UNITS micrograms/liter = ppb		
ALUMINUM - TOTAL	0.06	0.06	2.667
ANTIMONY - TOTAL	<0.05	<0.01	<0.1000
ARSENIC - TOTAL	<0.1	<0.10	<0.1000
BARIUM - TOTAL	***W <0.01		
BERYLLIUM - TOTAL	**W <0.01		
BORON - TOTAL	**W 0.04		
CADMIUM - TOTAL	<0.05	<0.05	<0.0500
CHLORINE - TOTAL	<0.01	<0.01	0.0400
COD - TOTAL	***W <0.01		
COPPER - TOTAL	0.01	<0.01	0.1733
IRON - TOTAL	0.1	0.06	1.5667
LEAD - TOTAL	<0.01	<0.01	<0.0100
MANGANESE - TOTAL	<0.01	<0.01	0.2200
MERCURY - TOTAL <b>5/</b>	<0.5	<0.5	<0.5
MOLYBDENUM - TOTAL	***W <0.01		
NICKEL - TOTAL	***W <0.02		
SELENIUM - TOTAL	***W 0.04		
SILVER - TOTAL	***W <0.01		
THALLIUM - TOTAL	***W <0.1		
TIN - TOTAL	***W <0.01		
TITANIUM - TOTAL	<0.01	<0.01	<0.0100
ZINC - TOTAL	<0.01	<0.01	0.1067
PHENOLS	ND	ND	

ppb means Parts Per Billion  
 ppm means Parts Per Million  
 GPD means Gallons Per Day  
 MGPD means Million Gallons Per Day  
 GPM means Gallons Per Minute

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCENTRATION
	UNITS as specified		
COLOR (Pt-Co units)	12	2	2.6
SPECIFIC CONDUCTANCE (umhos at 25° C.)	375	350	9,200
TURBIDITY (Jackson units)	1.4	3.5	3.13
FECAL STREPTOCOCCI BACTERIA number/100 ml	2/ ND	ND	ND
COLIFORM BACTERIA FECAL number/100 ml	ND	ND	ND
COLIFORM BACTERIA TOTAL number/100 ml	16	ND	ND
FLOW GPD (X) MGPD ( ) GPM ( )	1/ 1,297,000	745,000	348,000
pH	8.0	10.5	7.5
Temperature (Winter) (°F)	46	46	74
Temperature (Summer) (°F)	75	75	89

1/ THE QUOTED FIGURE IS THE TOTAL UNTREATED WATER INFLUENT TO THE POWER HOUSE FOR TREATMENT.

2/ ND MEANS NOT DETECTABLE.

< MEANS LESS THAN.

\* An entry of "A" means the parameter is not present in the initial untreated or treated intake and/or the discharge.

\*\* An entry of "W" means the presence of the parameter in the discharge is solely the result of inclusion in the intake water.

\*\*\* An entry of "NC" means (No Change) nothing other than heat is added to the water.

**5/ ARE ALL YOUR PARAMETERS LISTED IN THIS SECTION REPORTED IN PPB UNITS?**

APPLICATION NUMBER

000205

DISCHARGE SERIAL NUMBER

002

## PARAMETERS OF INTAKE WATER AND DISCHARGE

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION	PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION
	UNITS milligrams/liter = ppm				UNITS milligrams/liter = ppm		
ALKALINITY (as CaCO <sub>3</sub> )	94	90	51	POTASSIUM - TOTAL	1.0	0.800	9.8333
B.O.D. 5-DAY	4	4	97	SODIUM - TOTAL	1.0	4.00	244.333
CHEMICAL OXYGEN DEMAND (C.O.D.)	< 10	16	118	OIL AND GREASE	*	A	
TOTAL SOLIDS	325	285	1,332	SURFACTANTS	ND 2/	ND	
TOTAL DISSOLVED SOLIDS	300	283	1,329	ALGICIDES	ND	ND	
TOTAL SUSPENDED SOLIDS	25	< 2	3	CHLORINATED HYDRO- CARBONS (EXCEPT PESTICIDES)	ND	ND	
TOTAL VOLATILE SOLIDS	94	109	174	PESTICIDES	ND	ND	
AMMONIA (as N)	< 0.5	< 0.5	< 0.5	RADIOACTIVE PARAMETERS	UNITS picocurie/liter		
KITAMINE NITROGEN	0.5	0.4	< 0.5				
NITRATE (as N)	< 1	< 1	< 1				
PHOSPHORUS TOTAL (as P)	< 0.2	< 0.2	< 0.2				
ACIDITY (as CaCO <sub>3</sub> )	10	10	25				
TOTAL ORGANIC CARBON (T.O.C.)	6	29	24.1667				
TOTAL HARDNESS	85.9	118.66	390.5				
NITRITE (as N)	< 0.001	0.005	0.3020				
ORGANIC NITROGEN	**W 0.65			ALPHA - TOTAL ALPHA COUNTING ERROR			
PHOSPHORUS-ORTHO (as P)	0.065	0.033	0.1293	BETA - TOTAL BETA COUNTING ERROR			
SULFATE	43	5.2	157.3967	GAMMA - TOTAL GAMMA COUNTING ERROR			
SULFIDE	0.012	0.014	0.0298	TRITIUM - TOTAL TRITIUM COUNTING ERROR			
SULFITE	< 0.1	0.8	41.333	COMMENTS:  Parameters reported are those required for this industry's classification. <b>PLEASE ADVISE THE CORPS IF FLOW PARAMETER VALUES ARE TO BE KEPT CONFIDENTIAL, IF SO THEY MUST BE REMOVED FROM THE APPLICATION. IF SO ADVISED WE WILL RETURN THE APPLICATION TO YOU FOR THIS PURPOSE.</b>			
BROMIDE	**W 0.44						
CHLORIDE	21	20	73.33				
CYANIDE	0.063	0.0111	8.2567				
FLUORIDE	0.15	1.4	3.4667				
CALCIUM TOTAL	35	35	53.333				
MAGNESIUM - TOTAL	3.0	7.6	77.9667				

APPLICATION NUMBER

000205

DISCHARGE SERIAL NUMBER

002

## PARAMETERS OF INTAKE WATER AND DISCHARGE

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCENTRATION
	3/ UNITS micrograms/liter = ppb		
ALUMINUM - TOTAL	0.06	0.06	0.8333
ANTIMONY - TOTAL	<0.05	<0.01	<0.100
ARSENIC - TOTAL	<0.01	<0.10	<0.100
BARIUM - TOTAL	<0.01	<0.01	0.6000
BERYLLIUM - TOTAL	**W <0.01		
BORON - TOTAL	**W * 0.04		
CADMIUM - TOTAL	<0.05	<0.05	<0.0500
CHROMIUM - TOTAL	<0.01	<0.0100	<0.0100
COBALT - TOTAL	**W <0.01		
COPPER - TOTAL	**W 0.01		
IRON - TOTAL	0.1	0.0600	5.4667
LEAD - TOTAL	<0.01	<0.0100	<0.0100
MANGANESE - TOTAL	<0.01	<0.0100	2.6667
MERCURY - TOTAL	3/ <0.5	<0.5	<0.5
MOLYBDENUM - TOTAL	**W <0.01		
NICKEL - TOTAL	**W 0.02		
SELENIUM - TOTAL	**W 0.04		
SILVER - TOTAL	**W <0.01		
THALLIUM - TOTAL	**W <0.1		
TIN - TOTAL	**W <0.01		
TITANIUM - TOTAL	<0.01	<0.0100	0.0200
ZINC - TOTAL	<0.01	<0.0100	<0.0100
PHENOLS	ND	ND	

ppb - means Parts Per Billion  
 ppm - means Parts Per Million  
 GP - means Gallons Per Day  
 MG - means Million Gallons Per Day  
 GPM - means Gallons Per Minute

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCENTRATION
	UNITS as specified		
COLOR (Pt-Co units)	12	2	24
SPECIFIC CONDUCTANCE (umhos at 25° C.)	375	350	1483.1
TURBIDITY (Jackson units)	1.4	3.5	5.7
FECAL STREPTOCOCCI BACTERIA number/100 ml	1/		
COLIFORM BACTERIA FECAL number/100 ml	1/		
COLIFORM BACTERIA TOTAL number/100 ml	1/		
FLOW GPD (X) MGPD ( ) GPM ( )	4/ 217,980	4/ 59,330	4/ 141,000
pH	8.0	7.5	7.1
Temperature (Winter) (°F)	46	46	59
Temperature (Summer) (°F)	75	75	EST 74

1/ RESULTS OF THE BIOLOGICAL PARAMETERS  
WILL BE FORWARDED UPON COMPLETION OF  
THE PROGRAM.

2/ ND MEANS NOT DETECTABLE  
< MEANS LESS THAN.

\* An entry of "A" means the parameter is not present  
in the initial untreated or treated intake and/or  
the discharge.

\*\* An entry of "W" means the presence of the parameter  
in the discharge is solely the result of inclusion  
in the intake water.

\*\*\* An entry of "NC" means (No Change) nothing other  
than heat is added to the water.

3/ ARE ALL YOUR PARAMETERS LISTED  
IN THIS SECTION REPORTED IN PPB  
UNITS?

APPLICATION NUMBER

000205

DISCHARGE SERIAL NUMBER

003

## PARAMETERS OF INTAKE WATER AND DISCHARGE

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION
	UNITS milligrams/liter = ppm		
ALKALINITY (as CaCO <sub>3</sub> )	94	1/	731
B.O.D. 5-DAY	4	1/	3
CHEMICAL OXYGEN DEMAND (C.O.D.)	10	1/	25
TOTAL SOLIDS	325	1/	1065
TOTAL DISSOLVED SOLIDS	300	1/	313
TOTAL SUSPENDED SOLIDS	25	1/	732
TOTAL VOLATILE SOLIDS	94	1/	240
AMMONIA (as N)	0.5	1/	0.5
KJELDAHL NITROGEN	0.5	1/	0.8
NITRATE (as N)	1	1/	1
PHOSPHORUS TOTAL (as P)	0.2	1/	0.1
ACIDITY (as CaCO <sub>3</sub> )			
TOTAL ORGANIC CARBON (T.O.C.)			
TOTAL HARDNESS			
NITRITE (as N)			
ORGANIC NITROGEN			
PHOSPHORUS-ORTHO (as P)			
SULFATE	4.3	5.2	41.00
SULFIDE			
SULFITE			
BROMIDE			
CHLORIDE	21	20	26,667
CYANIDE			
FLUORIDE			
CALCIUM - TOTAL			
MAGNESIUM - TOTAL			

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION
	UNITS milligrams/liter = ppm		
POTASSIUM - TOTAL			
SODIUM - TOTAL			
OIL AND GREASE			
SURFACTANTS			
ALGICIDES			
CHLORINATED HYDRO- CARBONS (EXCEPT PESTICIDES)			
PESTICIDES			

RADIOACTIVE PARAMETERS	UNITS picocurie/liter		
ALPHA - TOTAL ALPHA COUNTING ERROR			
BETA - TOTAL BETA COUNTING ERROR			
GAMMA - TOTAL GAMMA COUNTING ERROR			
TRITIUM - TOTAL TRITIUM COUNTING ERROR			

COMMENTS:  
  
Parameters reported are those required for this industry's classification.  
  
1/ MEANS DOES NOT APPLY.

APPLICATION NUMBER  
000205

DISCHARGE SERIAL NUMBER  
003

PARAMETERS OF INTAKE WATER AND DISCHARGE

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION
	UNITS micrograms/liter = ppb		
ALUMINUM - TOTAL			
ANTIMONY - TOTAL			
ARSENIC - TOTAL			
BARIUM - TOTAL			
BERYLLIUM - TOTAL			
BORON - TOTAL			
CADMIUM - TOTAL			
CHROMIUM - TOTAL	<0.01	<0.0100	0.4667
COPPER - TOTAL			
IRON - TOTAL			
LEAD - TOTAL			
MANGANESE - TOTAL			
MERCURY - TOTAL			
MOLYBDENUM - TOTAL			
NICKEL - TOTAL			
SELENIUM - TOTAL			
SILVER - TOTAL			
THALLIUM - TOTAL			
TIN - TOTAL			
TITANIUM - TOTAL			
ZINC - TOTAL	<0.01	<0.0100	0.0267
PHENOLS	* A	* A	0.0060

ppb - means Parts Per Billion  
ppm - means Parts Per Million  
GPD - means Gallons Per Day  
MGD - means Million Gallons Per Day  
GPM - means Gallons Per Minute

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION
	UNITS as specified		
COLOR (Pt-Co units)			
SPECIFIC CONDUCTANCE (umhos at 25° C.)			
TURBIDITY (Jackson units)			
FECAL STREPTOCOCCI BACTERIA number/100 ml			
COLIFORM BACTERIA FECAL number/100 ml			
COLIFORM BACTERIA TOTAL number/100 ml			
FLOW GPD (X) MGPD ( ) GPM ( )	1,297,000		403,000
pH	8.5		10.1
Temperature (Winter) (°F)	46		46
Temperature (Summer) (°F)	75		75

< MEANS LESS THAN.

\* An entry of "A" means the parameter is not present in the initial untreated or treated intake and/or the discharge.

\*\* An entry of "W" means the presence of the parameter in the discharge is solely the result of inclusion in the intake water.

\*\*\* An entry of "NC" means (No Change) nothing other than heat is added to the water.

APPLICATION NUMBER

000205

DISCHARGE SERIAL NUMBER

004

## PARAMETERS OF INTAKE WATER AND DISCHARGE

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION	PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION	
	UNITS milligrams/liter = ppm				UNITS milligrams/liter = ppm			
ALKALINITY (as CaCO <sub>3</sub> )	94	35	33	POTASSIUM - TOTAL				
B.O.D. 5-DAY	4	4	5	SODIUM - TOTAL				
CHEMICAL OXYGEN DEMAND (C.O.D.)	10	10	54	OIL AND GREASE				
TOTAL SOLIDS	325	325	252	SURFACTANTS				
TOTAL DISSOLVED SOLIDS	300	300	247	ALGICIDES				
TOTAL SUSPENDED SOLIDS	25	25	5	CHLORINATED HYDRO- CARBONS (EXCEPT PESTICIDES)				
TOTAL VOLATILE SOLIDS	94	94	123	PESTICIDES				
AMMONIA (as N)	<0.5	<0.5	<0.5	RADIOACTIVE PARAMETERS	UNITS picocurie/liter			
K. NITROGEN	0.5	0.5	0.4		ALPHA - TOTAL			
NITRATE (as N)	<1	<1	<1		ALPHA COUNTING ERROR			
PHOSPHORUS TOTAL (as P)	<0.2	<0.2	<0.2		BETA - TOTAL			
ACIDITY (as CaCO <sub>3</sub> )					BETA COUNTING ERROR			
TOTAL ORGANIC CARBON (T.O.C.)					GAMMA - TOTAL			
TOTAL HARDNESS					GAMMA COUNTING ERROR			
NITRITE (as N)					TRITIUM - TOTAL			
ORGANIC NITROGEN					TRITIUM COUNTING ERROR			
PHOSPHORUS-ORTHO (as P)					COMMENTS:  Parameters reported are those required for this industry's classification.			
SULFATE	4.3	5.2	29.833					
SULFIDE								
SULFITE								
BROMIDE								
CHLORIDE	21	20	22					
CYANIDE								
FLUORIDE								
CALCIUM TOTAL								
MAGNESIUM - TOTAL								

APPLICATION NUMBER

000205

DISCHARGE SERIAL NUMBER

004

## PARAMETERS OF INTAKE WATER AND DISCHARGE

PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION	PARAMETER	UNTREATED INTAKE WATER	TREATED INTAKE WATER	DAILY AVERAGE DISCHARGE CONCEN- TRATION
	UNITS micrograms/liter = ppb.				UNITS as specified		
ALUMINUM - TOTAL				COLOR (Pt-Co units)			
ANTIMONY - TOTAL				SPECIFIC CONDUCTANCE (μmhos at 25° C.)			
ARSENIC - TOTAL				TURBIDITY (Jackson units)			
BARIUM - TOTAL				FECAL STREPTOCOCCI BACTERIA number/100 ml			
BERYLLIUM - TOTAL				COLIFORM BACTERIA FECAL number/100 ml			
BORON - TOTAL				COLIFORM BACTERIA TOTAL number/100 ml			
CADMIUM - TOTAL							
CHP - TOTAL	<0.01	<0.01	0.667	FLOW . GPD ( ) MCPD ( ) GPM ( )	1/	ESTM. 149,000	ESTM. 22,000
CO. TOTAL				pH	1/	10.5	7.8
COPPER - TOTAL				Temperature (Winter) (°F)	1/	46	90.1
IRON - TOTAL				Temperature (Summer) (°F)	1/	75	90.1
LEAD - TOTAL				1/ DOES NOT APPLY			
MANGANESE - TOTAL				< MEANS LESS THAN.			
MERCURY - TOTAL				* An entry of "A" means the parameter is not present in the initial untreated or treated intake and/or the discharge.			
MOLYBDENUM - TOTAL				** An entry of "W" means the presence of the parameter in the discharge is <u>solely</u> the result of inclusion in the intake water.			
NICKEL - TOTAL				*** An entry of "NC" means (No Change) nothing other than heat is added to the water.			
SELENIUM - TOTAL							
SILVER - TOTAL							
THALLIUM - TOTAL							
TIN - TOTAL							
TITANIUM - TOTAL							
ZINC - TOTAL	<0.01	<0.01	0.0733				
PHENOLS	* A	* A	0.004				

ppb - means Parts Per Billion  
ppr - means Parts Per Million  
GP - means Gallons Per Day  
MG. - means Million Gallons Per Day  
GPM - means Gallons Per Minute

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 GP - means Gallons Per Day  
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 GPM - means Gallons Per Minute

712

Re: Ashtabula  
Sherwin-Williams Chemicals  
Detail Plans of Solids Retention Basin  
Plans Received March 11, 1973

43B  
**RECEIVED**

MAY 24 1973

May 22, 1973

THE SHERWIN-WILLIAMS CO.  
G. F. WYMAN

To Mr. G. F. Wyman  
Plant Manager  
Sherwin-Williams Chemicals  
P.O. Box 310  
Ashtabula, Ohio 44004

**OhioEPA**

John J. Gilligan  
Governor  
Dr. Ira L. Whitman  
Director

Gentlemen:

The Ohio Environmental Protection Agency has reviewed the plans submitted pursuant to Ohio Revised Code Sections 3734.02, 6111.44 et seq. These plans are approved subject to the condition of compliance with all applicable laws, rules, regulations and standards. All construction must be supervised by an engineer or expert qualified in such work. The following special conditions must also be adhered to:

That this approval shall apply only to those facilities shown on the plans cited above;

That this approval shall become void October 1, 1973, unless the facilities shall be constructed as proposed by that time;

That the Division of Authorization and Compliance shall be notified, specifically and in writing, as to (a) the construction starting date (b) the construction completion date and (c) the date the facilities were placed into operation;

That the owner shall be responsible for the proper operation and maintenance of the wastewater treatment facilities;

That provision shall be made for proper operation of the wastewater pumping facilities.

The facility may be constructed only in accordance with the plans approved by the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the

045

*[Faint handwritten notes at the bottom of the page]*

**RECEIVED**

**MAY 24 1973**

THE SHERWIN-WILLIAMS CO.  
G. F. WYMAN



John J. Gilligan  
Governor  
Dr. Ira L. Whitman  
Director

**REPORT ON DETAIL PLANS FOR PROPOSED INDUSTRIAL  
WASTEWATER TREATMENT FACILITIES FOR SHERWIN-  
WILLIAMS COMPANY IN ASHTABULA**

**General**

Detail plans for a solids retention basin at the Sherwin-Williams Chemicals Plant in Ashtabula were received on March 11, 1973 from G. F. Wyman, Plant Manager. The basin will retain titanium dioxide solids that were initially settled in the wastewater treatment plant.

**Existing Facilities**

The company maintains two large settling basins to provide clarification of treated wastewater. Prior to entering these basins, caustic is added to neutralize the acidic nature of the water used in process.

At this point, the company has a pond to contain the solids settled in their primary basins. This pond has reached the end of its useful life and is to be replaced.

### Proposed Facilities

Sherwin-Williams proposes to construct another solids retention basin adjacent to their treatment plant. This basin will have a capacity of 32,000 cubic yards to provide storage space for three years accumulation of solids, mainly inert titanium dioxide.

The solids will be pumped from the settling basins to the new solids retention basin. The supernatant will be returned by pump to the wastewater treatment system.

The solids retention basin will be tight, a geological survey of the area shows glacial lake clays to be prevalent. The plans indicate that Sherwin-Williams will make an effort to maintain water-tight integrity by compaction to A.S.T.M. specifications.

### Estimated cost

The estimated cost of these plans is \$38,000.00.

### Recommendations

It is recommended that these plans be approved.

Ray Djubasak/mm  
Environmental Engineer

April 12, 1973  
Cuyahoga Falls, Ohio 44221

5-00-81 HLB

PCF

CEB

CVW

RECEIVED

MAY 24 1973

THE SHERWIN-WILLIAMS CO.  
G. F. WYMAN



John J. Gilligan  
Governor  
Dr. Ira L. Whitman  
Director

REPORT ON DETAIL PLANS FOR PROPOSED INDUSTRIAL  
WASTEWATER TREATMENT FACILITIES FOR SHERWIN-  
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### Recommendations

It is recommended that these plans be approved.

Ray Djubasak/mm  
Environmental Engineer

April 12, 1973  
Cuyahoga Falls, Ohio 44221

5-20-81 ALB

FCG

1973

EWB

112

483

October 10, 1973

Mr. Howard J. Scott  
Ohio Environmental Protection Agency  
2110 East Aurora Road  
Twinsburg, Ohio, 44087

Attention: Mr. Don J. Heuer

Re: Premise # 02-02-04-01-0200 - Permit Review

Gentlemen:

Attached hereto are permit applications covering two processes  $TiCl_4$  (P-1),  $TiO_2$  (P-2), two boilers, and one incinerator. These applications are in effect a resubmission of the original permit applications covering operations at this location. They represent a revision of format and up-dating of the originals as agreed upon in the conference in our offices on August 29th with confirming letter dated September 20th from Mr. Heuer.

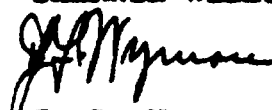
Additional samples were taken and analyzed and measurements made as a basis for any data revisions that have been made.

In regard to the incinerator, a review of the vendor's specifications show it to be a multiple chamber unit. A letter has been addressed to the vendor with the request that he verify that the unit can operate within regulations. In the meantime, burning of lunchroom waste materials and the like has been discontinued and burning limited to destruction of paper generated in the office. We believe this eliminates the need for a variance. If not, we will resubmit the request covering the incinerator indicating the alternative which will be adopted in order to be in compliance.

Your consideration and assistance in the handling of this matter is greatly appreciated.

Yours very truly,

SHERWIN-WILLIAMS CHEMICALS

  
G. P. Wyman

GFU/am

cc: A. C. Thomas  
H. L. Berkowitz  
C. G. Bretz

Document "S"

APPLICATION FOR PERMIT  
PROCESSREV. 10/8/73  
P-1, PAGE 1 OF 14

1. Facility Name SHERWIN-WILLIAMS CHEMICALS DIV. ASHTABULA PLANT Person to Contact T. C. GILLEN
- Facility Address 2900 MIDDLE ROAD Mailing Address P. O. Box 310
- Street ASHTABULA TOWNSHIP ASHTABULA 44004 City ASHTABULA State OHIO Zip 44004
- City, Village or Township County Zip City State Zip
- Telephone 216 998-1825
- Area Code Number
2. This application is submitted for:
- ☒ Permit to operate an existing source
- ☐ Permit to construct a new source or modify an existing source
- ☐ Variance from regulation(s) \_\_\_\_\_ for \_\_\_\_\_ months
3. Check-list of information to accompany this application:
- ☐ Plans and drawings ☒ Emission tests or calculations ☒ Process flow diagram
- ☐ Compliance time schedule ☐ Construction schedule ☐ Additional information
4. Name of process TIDOX® OPERATION - TIOCL<sub>4</sub> PROCESS (P-1) Year installed 1969
5. Product of this process TITANIUM TETRACHLORIDE
6. Process equipment ATTACHED PROCESS FLOW DIAGRAM Your identification \_\_\_\_\_
7. Manufacturer \_\_\_\_\_ Make or model \_\_\_\_\_
8. Capacities (lbs/hr): Rated \_\_\_\_\_ Maximum \_\_\_\_\_

## OPERATING INFORMATION

9. Normal operating schedule: hrs/day 24 days/wk 7 wks/yr 48
10. Percent annual production (finished units) by season: Winter 27% Spring 27% Summer 27% Fall 19%
11. Hourly production rates (lbs): Average 14,921 Maximum 16,597
12. Annual production (indicate units) 60,162 TONS/YR.
13. Projected percent annual increase in production 3%
14. Method of exhaust ventilation: ☒ Stack ☒ Window fan ☒ Roof vent ☐ Other, describe \_\_\_\_\_
15. Type of process: ☒ Continuous ☐ Batch
16. If batch, minutes per cycle \_\_\_\_\_ minutes between cycles \_\_\_\_\_
17. Does process involve any of the following (check all applicable)? ☐ Lead ☐ Asbestos ☐ Beryllium ☐ Mercury
18. Materials used in process (include organic materials)

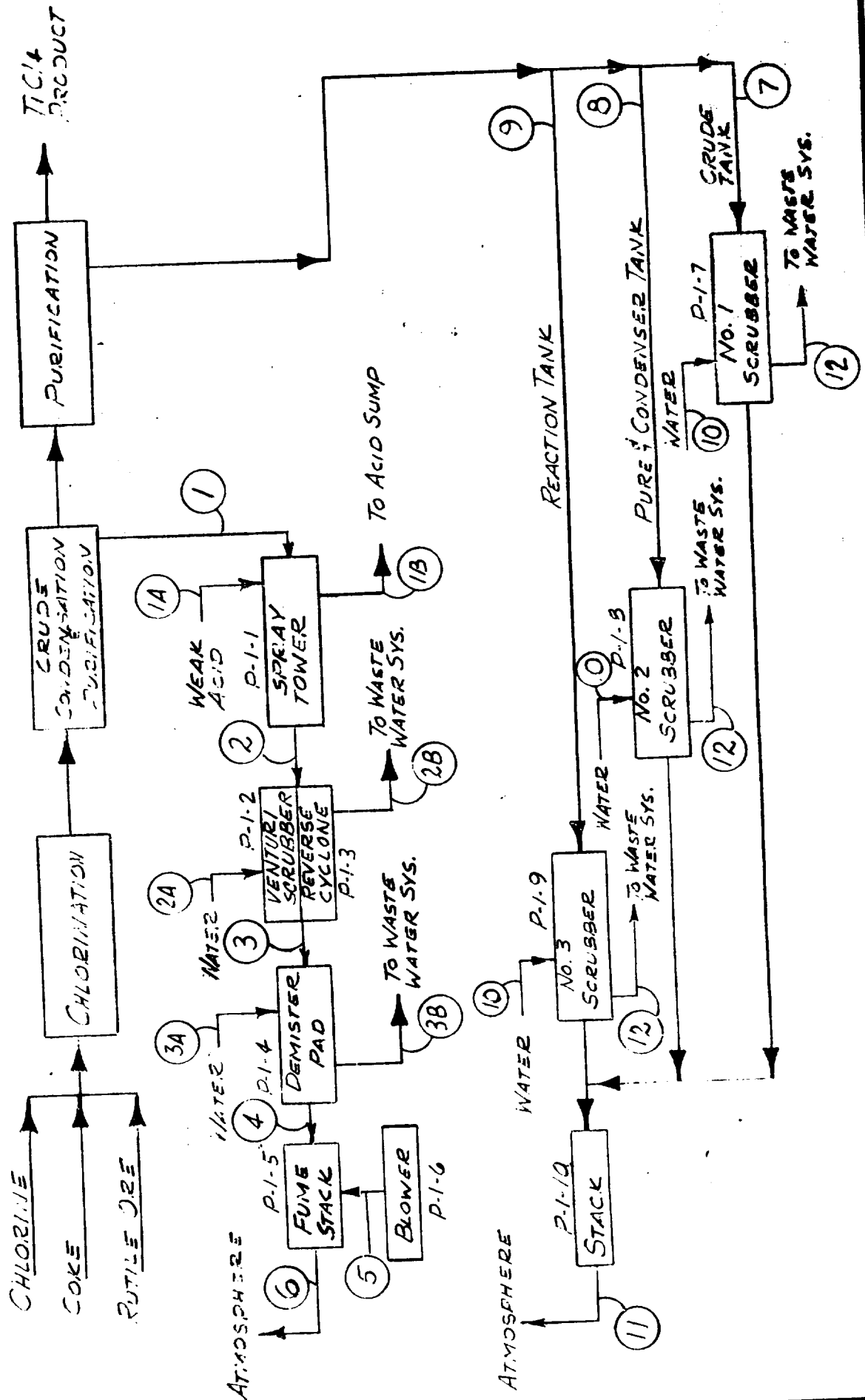
List of Raw Materials	Principal Use	Amount (lbs./hr.)
RUTILE ORE	SOURCE OF CRUDE TITANIUM DIOXIDE	7,069
COKE	COMBUSTION HEAT	2,184
CHLORINE	CONVERT TIO <sub>2</sub> TO TIOCL <sub>4</sub>	873
		10,126

19. This application must include a detailed process flow diagram. Show entry and exit points of all raw materials, intermediate products, by-products and finished products. Label all materials including airborne contaminants and other waste materials.

**Important Note:** If emissions from this source have been determined by source tests, material balances or emission factors, include such data and supporting calculations with application.

# TITANIUM TETRACHLORIDE PROCESS

P-1



FOR OFFICIAL USE ONLY

# DATA SHEET

## STACKS AND OTHER EGRESS POINTS

SHERWIN-WILLIAMS CHEMICALS DIV.

1. Facility Name ASHTABULA PLANT

Person to Contact T. C. GILLEN

Facility Address 2900 MIDDLE ROAD

Mailing Address P. O. Box 310

Street

Street

ASHTABULA TOWNSHIP

ASHTABULA

44004

ASHTABULA

OHIO

44004

City, Village or Township

County

Zip

City

State

Zip

Telephone 216

Area Code

998-1825

Number

2. Type: ☒ Round ☐ Rectangular - top inside dimension(s) (L & W or Diam.) 2' x 134'

3. Height: Above roof      ft. Above ground 134 ft.

4. Exit gas: Temp. 70 °F. Volume 7790 ACFM Velocity 2700 feet per minute

5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes indicate: Type RUBBER LINED

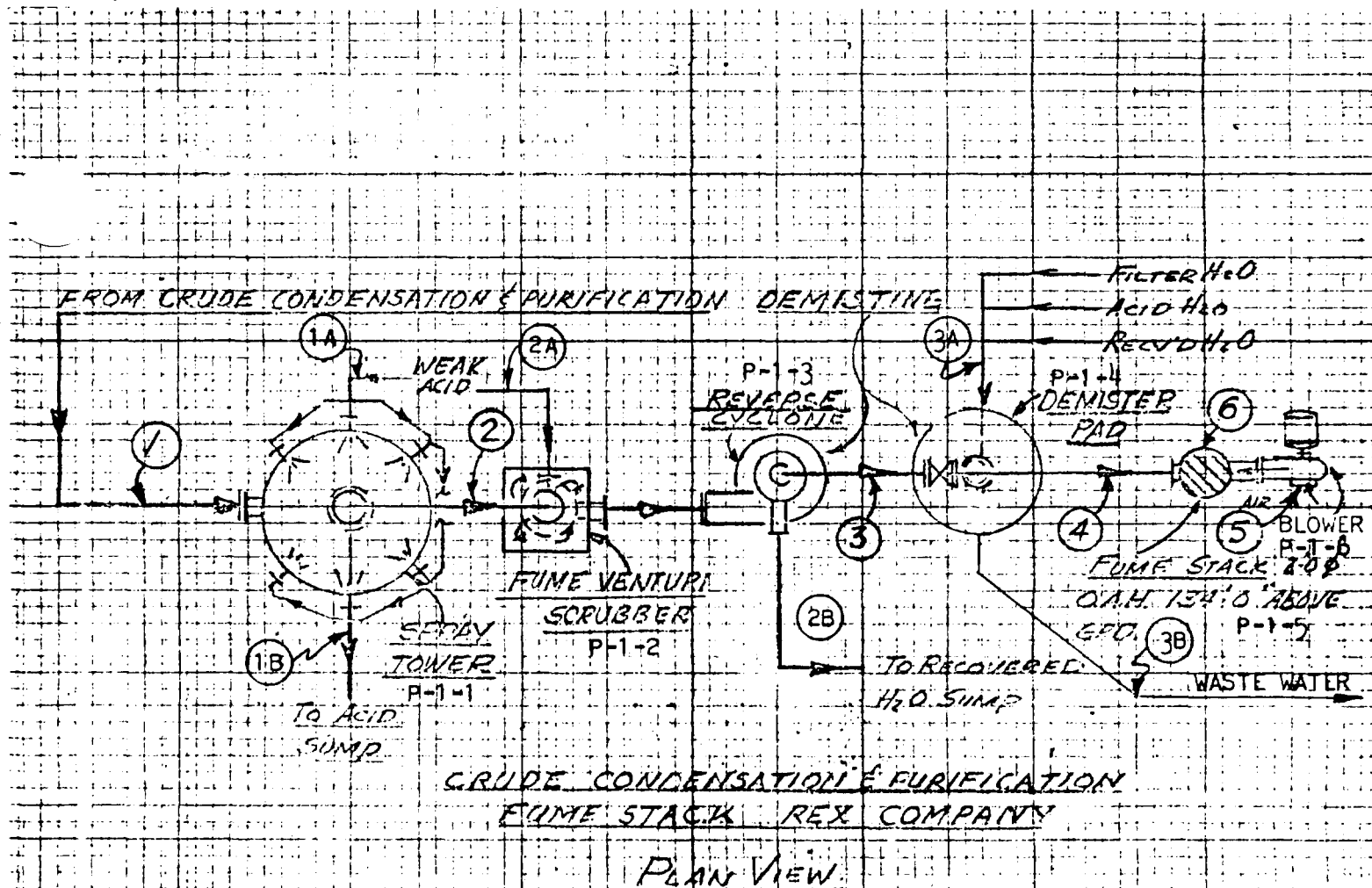
Manufacturer REX COMPANY

Make or model CARBON STEEL

Pollutant TiCl<sub>4</sub>, H<sub>2</sub>S, HCL

SEE ATTACHED DATA SHEET

6. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



FOR OFFICIAL USE ONLY

Premise No. \_\_\_\_\_

Source No. \_\_\_\_\_

# DATA SHEET CONTROL EQUIPMENT

REV. 10/8/73  
P-1, PAGE 4 OF 14

SHERWIN-WILLIAMS CHEMICALS DIV.

Facility Name ASHTABULA PLANTPerson to Contact T. C. GILLENFacility Address 2900 MIDDLE ROAD  
StreetMailing Address P. O. Box 310  
StreetASHTABULA TOWNSHIPASHTABULA44004ASHTABULAOHIO44004

City, Village or Township

County

Zip

City

State

Telephone 216998-1825

Area Code

2. Type of gas cleaning equipment (check one):

Settling chamber ☐ Cyclone ☐ Multiple cyclone ☐ Electrostatic precipitator ☐ Fabric filter ☐☒ Absorber ☐ Incineration ☐ Wet collector, type \_\_\_\_\_ Adsorber ☐

A separate "Data Sheet for Control Equipment" must be completed for each control device. Stack data should be shown on form AP-PS-07, "Data Sheet -- Stacks and Other Egress Points".

3. Manufacturer BEETLE PLASTICS Model No. NONE Year installed 19684. Tour identification SPRAY TOWER Pollutant(s) controlled TICL<sub>4</sub>, HCL5. Design efficiency UNKNOWN Pressure drop across collector 10 PSIG6. Efficiency (operating - if known) 62.5%\* Controlled pollutant emission rate (if known) N/A7. Total installed capital equipment cost \$13,005 SEE ATTACHED DATA SHEET

\* CALCULATIONS ON ATTACHED SHEET.

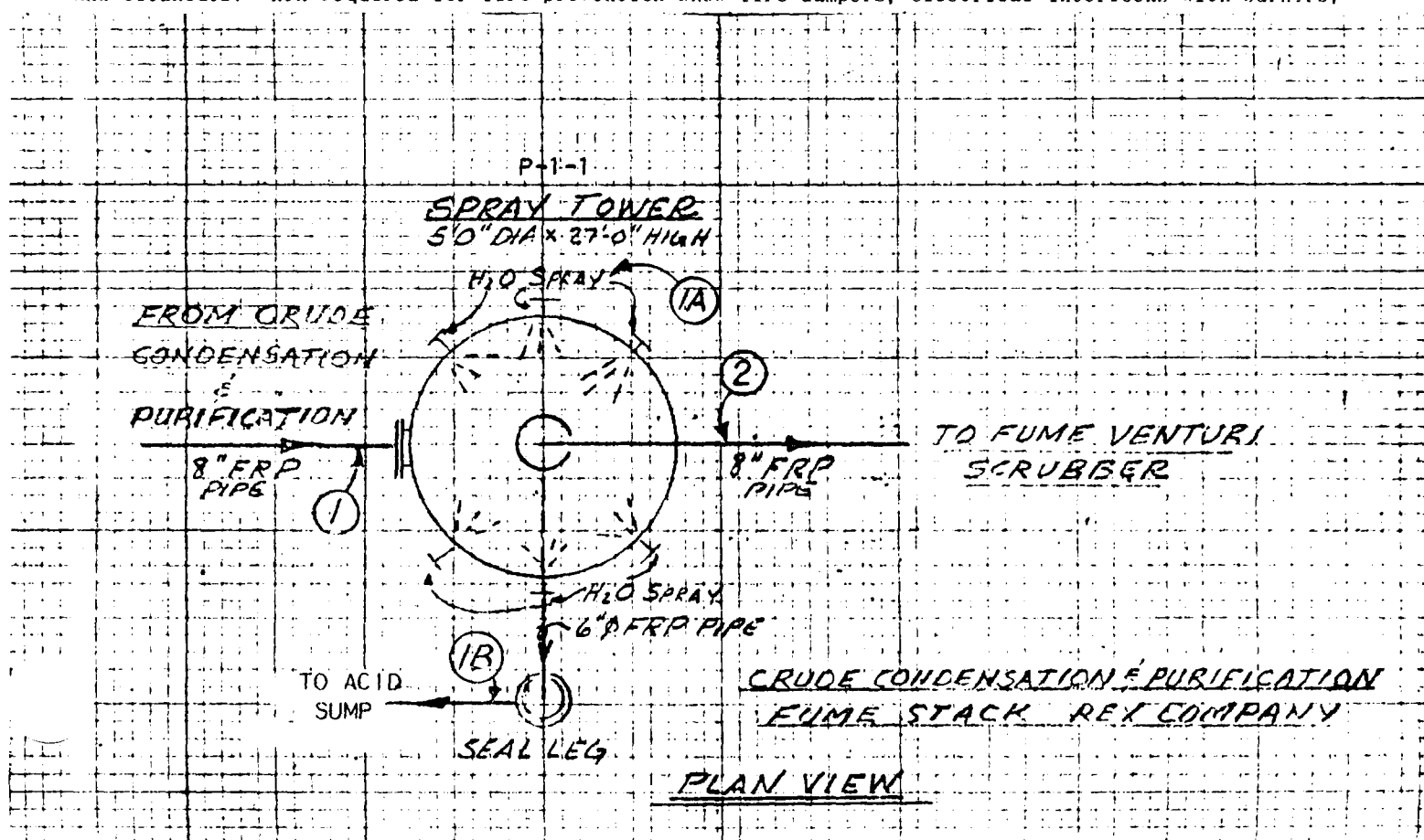
## FAN DATA

8. Type: ☐ Axial ☐ Centrifugal RPM \_\_\_\_\_ HP \_\_\_\_\_ Static pressure \_\_\_\_\_

9. Volume \_\_\_\_\_ ACFM at \_\_\_\_\_ F. No. of fans in system \_\_\_\_\_

## CAPTURE AND TRANSPORT DATA

10. Ductwork detail: Draw a plan view of the source equipment and air cleaning equipment. Indicate transport velocity in actual feet per minute, total system resistance in inches of water, and gas moisture content and temperature. Include such other pertinent information as: dimensions, elbows, duct material, dampers and cleanouts. When required for fire prevention show fire dampers, electrical interlocks with burners,



STREAM CHARACTERISTICS - SPRAY TOWER

- |     |   |     |   |
|-----|---|-----|---|
| 1.  | 220#/HR. $\text{TiCl}_4$<br>423#/HR. HCL  | 2.  | 82.5#/HR. $\text{TiCl}_4$<br>162.2#/HR. HCL   |
| 1A. | 2,473.5#/HR. $\text{TiCl}_4$<br>14,388.5#/HR. HCL<br>70,000#/HR. $\text{H}_2\text{O}$ | 1B. | 2,611.0#/HR. $\text{TiCl}_4$<br>14,649.3#/HR. HCL<br>70,000#/HR. $\text{H}_2\text{O}$ |

$\text{TiCl}_4$  REMOVED = 137.5#/HR.

EFFICIENCY =  $137.5/220 \times 100\% = 62.5\%$

# DATA SHEET

## CONTROL EQUIPMENT

 REV. 10/8/73  
 P-1, PAGE 6 OF 14

SHERWIN-WILLIAMS CHEMICALS DIV.

Facility Name ASHTABULA PLANTPerson to Contact T. C. GILLENFacility Address 2900 MIDDLE ROAD  
Street

Mailing Address \_\_\_\_\_

P. O. Box 310  
StreetASHTABULA TOWNSHIPASHTABULA44004ASHTABULAOHIO44004

City/Village or Township

County

Zip

City

State

Telephone 216

Area Code \_\_\_\_\_

998-1825

Number \_\_\_\_\_

## 2. Type of gas cleaning equipment (check one):

 Settling chamber ☐ Cyclone ☐ Multiple cyclone ☐ Electrostatic precipitator ☐ Fabric filter ☐  
☒ Absorber ☐ Incineration ☐ Wet collector, type \_\_\_\_\_ Adsorber ☐

 A separate "Data Sheet for Control Equipment" **must** be completed for each control device. Stack data must be shown on form AP-PS-07, "Data Sheet -- Stacks and Other Egress Points".
3. Manufacturer SCHUTTE & KOERTING Model No. 7010 EJECTOR VENTURI Year installed 19684. Your identification FA 1121-3214-1Pollutant(s) controlled TiCl<sub>4</sub>, HCL5. Design efficiency UNKNOWNPressure drop across collector 1 PSIGin. H<sub>2</sub>O6. Efficiency (operating - if known) 82%\*Controlled pollutant emission rate (if known) N/A7. Total installed capital equipment cost \$2,020

SEE ATTACHED DATA SHEET

\* CALCULATIONS ON ATTACHED SHEET.

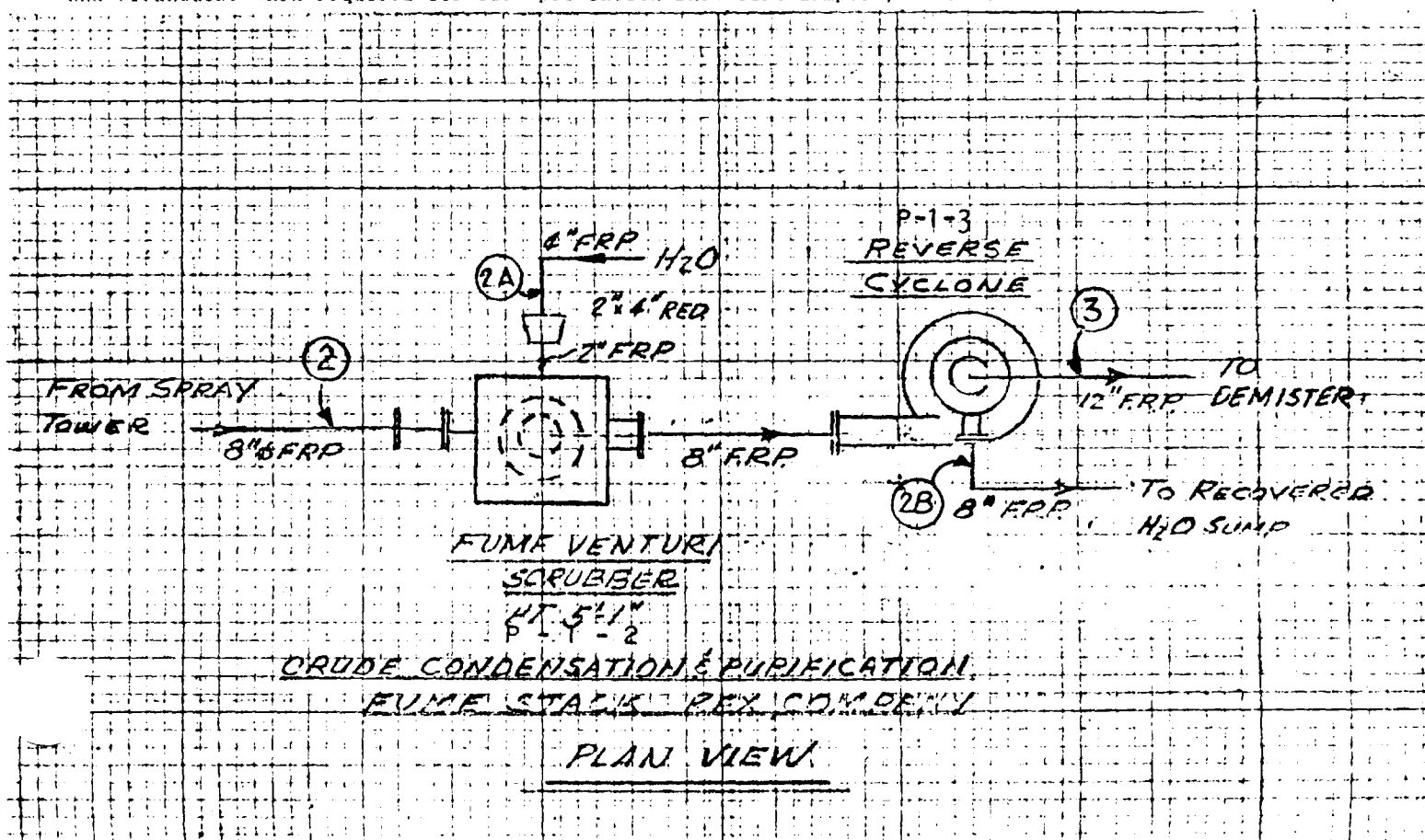
FAN DATA

8. Type: ☐ Axial ☐ Centrifugal RPM \_\_\_\_\_ HP \_\_\_\_\_ Static pressure \_\_\_\_\_

9. Volume \_\_\_\_\_ ACFM at \_\_\_\_\_ °F. No. of fans in system \_\_\_\_\_

## CAPTURE AND TRANSPORT DATA

Ductwork detail: Draw a plan view of the source equipment and air cleaning equipment. Indicate transport velocity in actual feet per minute, total system resistance in inches of water, and gas moisture content and temperature. Include such other pertinent information as: dimensions, elbows, duct material, dampers and cleanouts. When required for fire prevention show fire dampers, electrical interlocks with burners,



STREAM CHARACTERISTICS - VENTURI SCRUBBER  
REVERSE CYCLONE

2.	82.5#/HR. $\text{TiCl}_4$ 162.2#/HR. HCL	3.	14.6#/HR. $\text{TiCl}_4$ 29.2#/HR. HCL
2A.	9.5#/HR. $\text{TiCl}_4$ 50,000#/HR. $\text{H}_2\text{O}$	2B.	77.4#/HR. $\text{TiCl}_4$ 133.0#/HR. HCL 50,000#/HR. $\text{H}_2\text{O}$

$\text{TiCl}_4$  REMOVED = 67.9#/HR.

EFFICIENCY =  $67.9/82.5 \times 100\% = 82\%$

# DATA SHEET CONTROL EQUIPMENT

 REV. 10/8/73  
 P-1, PAGE 8 OF 14

SHERWIN-WILLIAMS CHEMICALS DIV.

 1. Utility Name ASHTABULA PLANT Person to Contact T. C. GILLEN

 Utility Address 2900 MIDDLE ROAD Mailing Address P. O. Box 310  
 Street Street

ASHTABULA TOWNSHIP ASHTABULA 44004 ASHTABULA OHIO 44004  
 City, Village or Township County Zip City State Zip

 Telephone 216 998-1825  
 Area Code Number

## 2. Type of gas cleaning equipment (check one):

- ☐ Settling chamber    ☐ Cyclone    ☐ Multiple cyclone    ☐ Electrostatic precipitator    ☐ Fabric filter  
☒ Absorber    ☐ Incineration    ☐ Wet collector, type \_\_\_\_\_    ☐ Adsorber

A separate "Data Sheet for Control Equipment" must be completed for each control device. Stack data should be shown on form AP-PS-07, "Data Sheet -- Stacks and Other Egress Points".

3. Manufacturer BEETLE PLASTICS Model No. NONE Year installed 1968  
 4. Your identification 1121-3216-1 Pollutant(s) controlled TICL<sub>4</sub>, HCL  
 5. Design efficiency UNKNOWN Pressure drop across collector 10 PSIG in. H<sub>2</sub>O  
 6. Efficiency (operating - if known) 95%\* Controlled pollutant emission rate (if known) SEE ATTACHED SHEET  
 7. Total installed capital equipment cost \$7,590

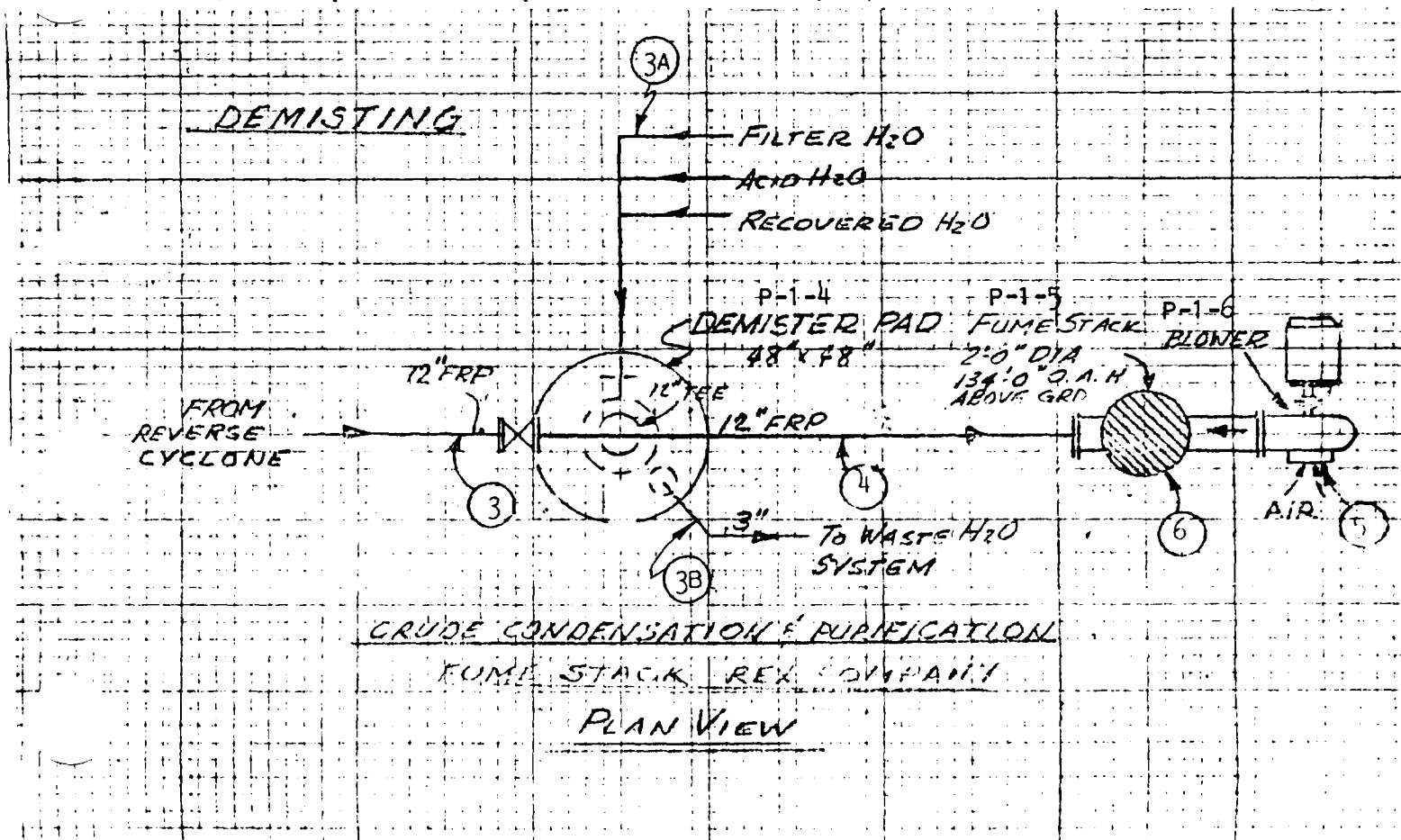
## \* CALCULATIONS ON ATTACHED SHEET.

## FAN DATA

8. Type: ☐ Axial    ☒ Centrifugal    RPM 1750 HP 10 Static pressure 5"  
 9. Volume 5000 ACFM at 70 °F. No. of fans in system ONE

## CAPTURE AND TRANSPORT DATA

10. Ductwork detail: Draw a plan view of the source equipment and air cleaning equipment. Indicate transport velocity in actual feet per minute, total system resistance in inches of water, and gas moisture content temperature. Include such other pertinent information as: dimensions, elbows, duct material, dampers, cleanouts. When required for fire prevention show fire dampers, electrical interlocks with burners.



STREAM CHARACTERISTICS - DEMISTER & FUME STACK

- |    |   |     |  |
|----|---|-----|--|
| 3. | 14.6#/HR. $\text{TiCl}_4$<br>29.2#/HR. HCL                                  | 3A. | 37,500#/HR. $\text{H}_2\text{O}$   |
| 4. | 0.7#/HR. $\text{TiCl}_4$<br>1.5#/HR. HCL<br>1.3#/HR. $\text{H}_2\text{S}^*$ | 3B. | 13.9#/HR. $\text{TiCl}_4$<br>27.7#/HR. HCL<br>37,500#/HR. $\text{H}_2\text{O}$ |

$\text{TiCl}_4$  REMOVED = 13.9#/HR.

EFFICIENCY =  $13.9/14.6 \times 100\% = 95\%$

5. 5,000 ACFM MISC. VENT AIR

6. 0.7#/HR.  $\text{TiCl}_4$   
1.5#/HR. HCL  
1.3#/HR.  $\text{H}_2\text{S}^*$

\*  $\text{H}_2\text{S}$  WAS NOT DETECTED UPSTREAM. NO  $\text{H}_2\text{S}$  ADDED TO SYSTEM.

FOR OFFICIAL USE ONLY

# DATA SHEET

## STACKS AND OTHER EGRESS POINTS

1. Facility Name SHERWIN-WILLIAMS CHEMICALS DIV. ASHTABULA PLANT Person to Contact T. C. GILLEN

Facility Address 2900 MIDDLE ROAD Mailing Address P. O. Box 310

City, Village or Township ASHTABULA TOWNSHIP County ASHTABULA Zip 44004 City ASHTABULA State OHIO Zip 44004

Telephone 216 Area Code 419 Number 998-1825

2. Type: ☒ Round ☐ Rectangular - top inside dimension(s) (L & W or Diam.) 4"  $\phi$  x 25' 6 1/2"

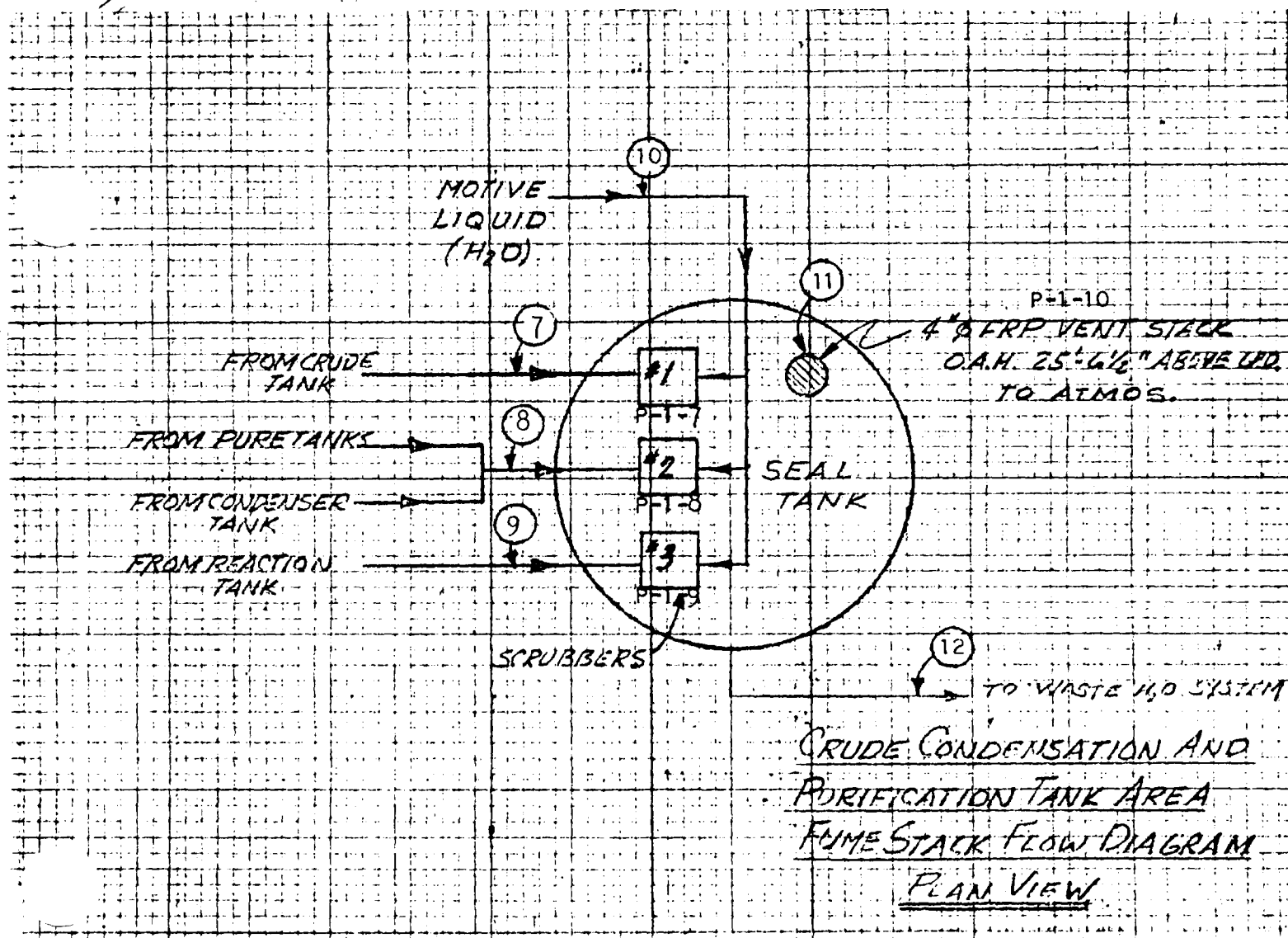
3. Height: Above roof 0 ft. Above ground 28' 6 1/2" ft.

4. Exit gas: Temp. 70 °F. Volume 27 ACFM Velocity 300 feet per minute

5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_

Manufacturer BEETLE PLASTICS Make or model NONE Pollutant TiCl<sub>4</sub>, HCL

6. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



FOR OFFICIAL USE ONLY

Premise No. \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Source No. \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

# DATA SHEET CONTROL EQUIPMENT

Sherwin-Williams Chemicals Div.

Facility Name Ashtabula Plant

Person to Contact T. C. Gillen

Facility Address 2900 Middle Road  
Street

Mailing Address P. O. Box 310  
Street

Ashtabula Township Ashtabula 44004  
City, Village or Township County Zip

Ashtabula Ohio 44004  
City State Zip

Telephone 216 998-1825  
Area Code Number

2. Type of gas cleaning equipment (check one):

- ☐ Settling chamber ☐ Cyclone ☐ Multiple cyclone ☐ Electrostatic precipitator ☐ Fabric filter  
☒ Absorber ☐ Incineration ☐ Wet collector, type \_\_\_\_\_ ☐ Adsorber

A separate "Data Sheet for Control Equipment" must be completed for each control device. Stack data should be shown on form AP-PS-07, "Data Sheet -- Stacks and Other Egress Points".

3. Manufacturer Schutte & Koerting Model No. S & K Fig. 4010 Year installed 1968

4. Your identification FA 1090-2873-1

Pollutant(s) controlled TiCl<sub>4</sub> and HCl

5. Design efficiency Unknown

Pressure drop across collector Unknown in. H<sub>2</sub>O

6. Efficiency (operating - if known) 90% \*

Controlled pollutant emission rate (if known) See attached data sheet

7. Total installed capital equipment cost \$695

\* See attached sheet

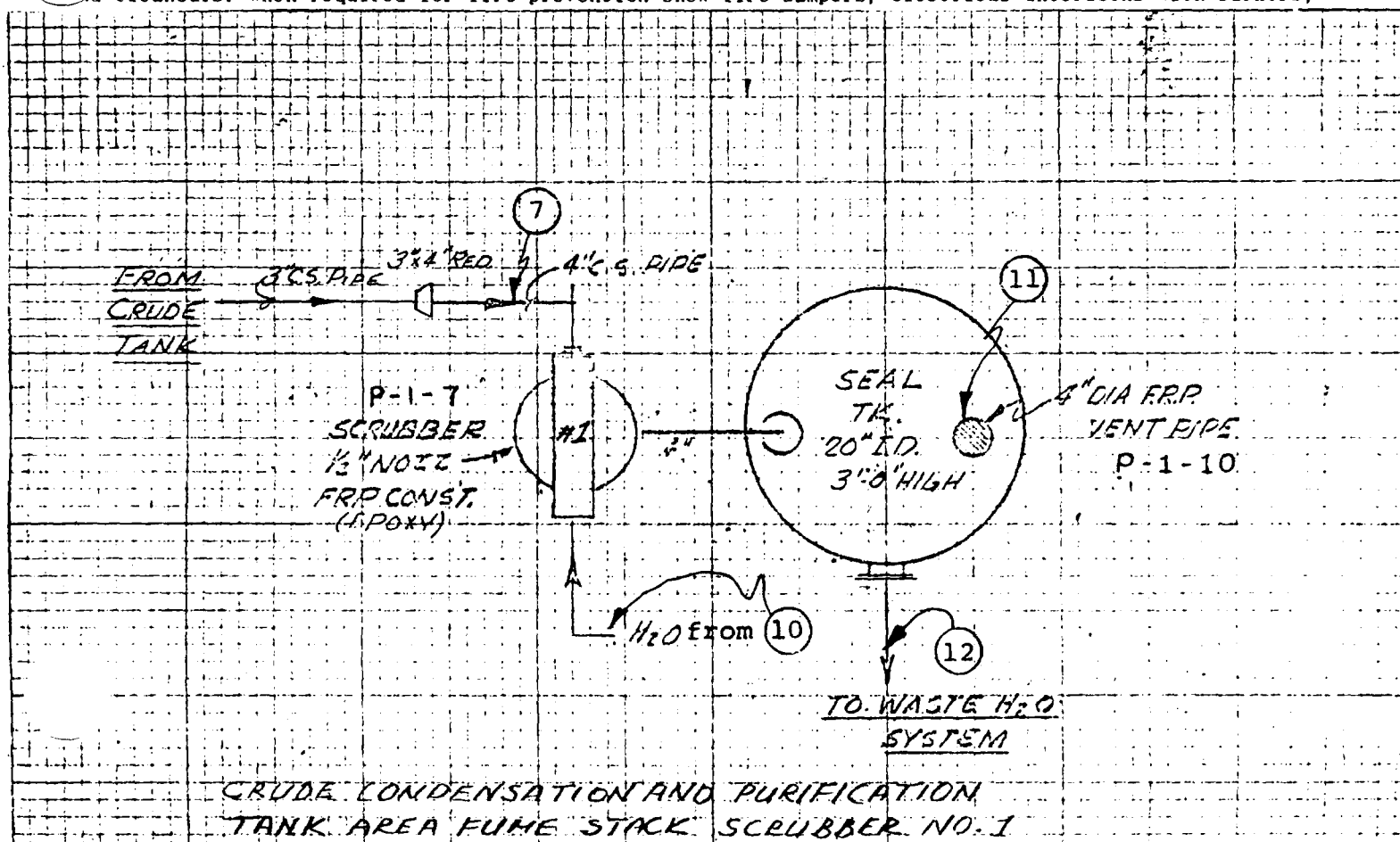
## FAN DATA

8. Type: ☐ Axial ☐ Centrifugal RPM \_\_\_\_\_ HP \_\_\_\_\_ Static pressure \_\_\_\_\_

9. Volume \_\_\_\_\_ ACFM at \_\_\_\_\_ F. No. of fans in system \_\_\_\_\_

## CAPTURE AND TRANSPORT DATA

10. Ductwork detail: Draw a plan view of the source equipment and air cleaning equipment. Indicate transport velocity in actual feet per minute, total system resistance in inches of water, and gas moisture content temperature. Include such other pertinent information as: dimensions, elbows, duct material, dampers, and cleanouts. When required for fire prevention show fire dampers, electrical interlocks with burners,



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Premise No.        /        /        /       Source No.        /       

# DATA SHEET CONTROL EQUIPMENT

Rev. 10/8/73

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Sherwin-Williams Chemicals Div.

Facility Name Ashtabula PlantPerson to Contact T. C. GillenFacility Address 2900 Middle Road  
StreetMailing Address P. O. Box 310  
StreetAshtabula Township Ashtabula 44004  
City, Village or Township County ZipAshtabula Ohio 44004  
City State ZipTelephone 216 998-1825  
Area Code Number

## 2. Type of gas cleaning equipment (check one):

- ☐ Settling chamber ☐ Cyclone ☐ Multiple cyclone ☐ Electrostatic precipitator ☐ Fabric filter  
☒ Absorber ☐ Incineration ☐ Wet collector, type        ☐ Adsorber

A separate "Data Sheet for Control Equipment" must be completed for each control device. Stack data should be shown on form AP-PS-07, "Data Sheet -- Stacks and Other Egress Points".

3. Manufacturer Schutte & Koerting Model No. S-K Fig. 4010 Year installed 19684. Your identification FA 1090-2873-2 Pollutant(s) controlled TiCl<sub>4</sub> and HCl5. Design efficiency Unknown Pressure drop across collector Unknown in. H<sub>2</sub>O6. Efficiency (operating - if known) 90% \* Controlled pollutant emission rate (if known) See attached7. Total installed capital equipment cost \$695 data sheet

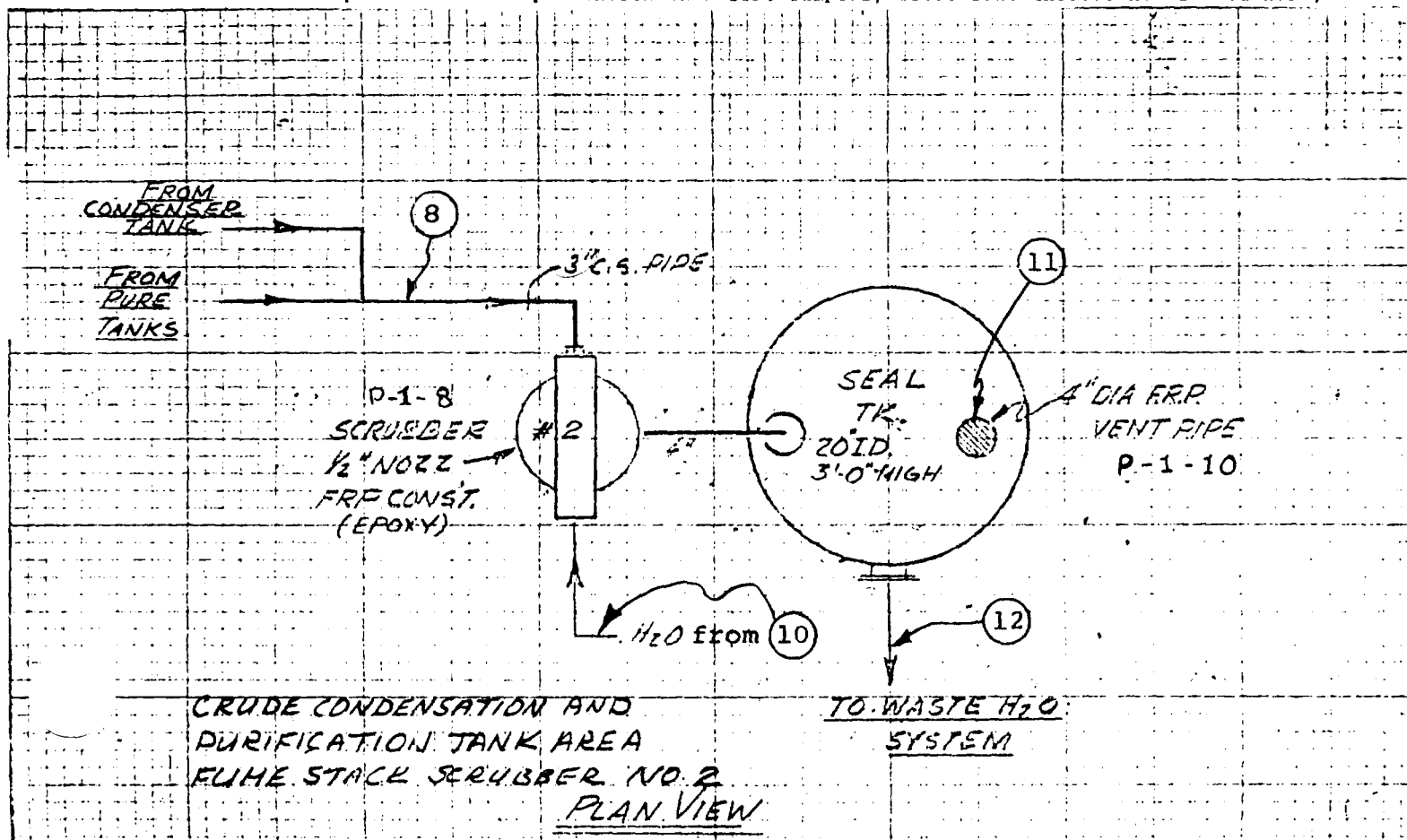
\* See attached sheet

## FAN DATA

8. Type: ☐ Axial ☐ Centrifugal RPM        HP        Static pressure       9. Volume        ACFM at        F. No. of fans in system       

## CAPTURE AND TRANSPORT DATA

10. Ductwork detail: Draw a plan view of the source equipment and air cleaning equipment. Indicate transport velocity in actual feet per minute, total system resistance in inches of water, and gas moisture content temperature. Include such other pertinent information as: dimensions, elbows, duct material, dampers and cleanouts. When required for fire prevention show fire dampers, electrical interlocks with burners.



# DATA SHEET CONTROL EQUIPMENT

Sherwin-Williams Chemicals Div.

 Facility Name Ashtabula Plant

 Person to Contact T. C. Gillen

 Facility Address 2900 Middle Road

 Mailing Address P. O. Box 310
Ashtabula Township Ashtabula 44004  
 City, Village or Township County Zip

Ashtabula Ohio 44004  
 City State Zip

 Telephone 216 998-1825  
 Area Code Number

## 2. Type of gas cleaning equipment (check one):

- ☐ Settling chamber    ☐ Cyclone    ☐ Multiple cyclone    ☐ Electrostatic precipitator    ☐ Fabric filter  
☒ Absorber    ☐ Incineration    ☐ Wet collector, type \_\_\_\_\_    ☐ Adsorber

A separate "Data Sheet for Control Equipment" must be completed for each control device. Stack data should be shown on form AP-PS-07, "Data Sheet -- Stacks and Other Egress Points".

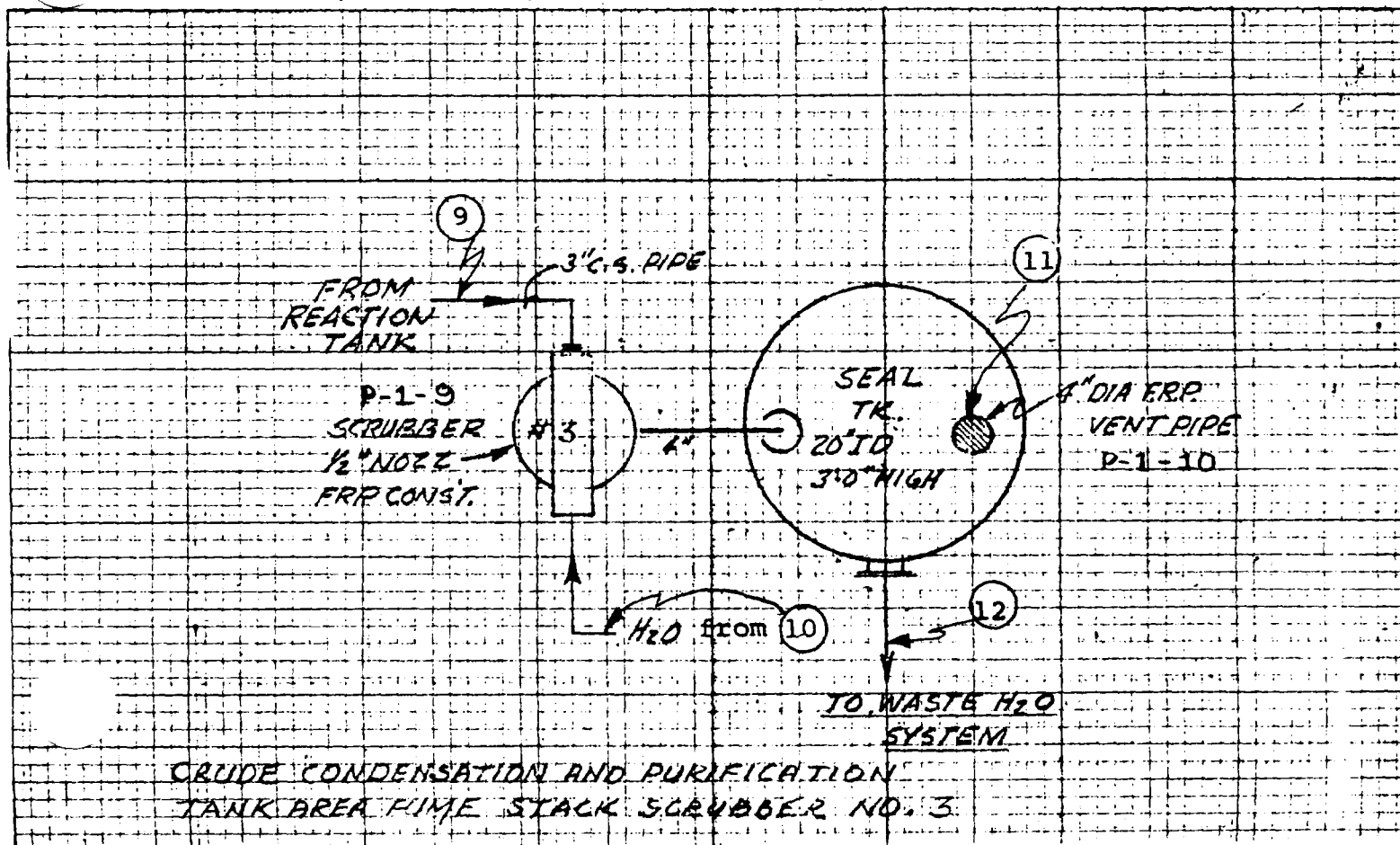
3. Manufacturer Schutte-Koerting Co. Model No. S-K Fig. 4010 Year installed 1968  
 4. Your identification FA 1090-2873-3 Pollutant(s) controlled TiCl<sub>4</sub> and HCl  
 5. Design efficiency unknown Pressure drop across collector unknown in. H<sub>2</sub>O  
 6. Efficiency (operating - if known) 90% \* Controlled pollutant emission rate (if known) See attached data sheet  
 7. Total installed capital equipment cost \$870

## FAN DATA

8. Type: ☐ Axial    ☐ Centrifugal    RPM \_\_\_\_\_ HP \_\_\_\_\_ Static pressure \_\_\_\_\_  
 9. Volume \_\_\_\_\_ ACFM at \_\_\_\_\_ F. No. of fans in system \_\_\_\_\_

## CAPTURE AND TRANSPORT DATA

10. Ductwork detail: Draw a plan view of the source equipment and air cleaning equipment. Indicate transport velocity in actual feet per minute, total system resistance in inches of water, and gas moisture content temperature. Include such other pertinent information as: dimensions, elbows, duct material, dampers, cleanouts. When required for fire prevention show fire dampers, electrical interlocks with burners,



STREAM CHARACTERISTICS - TANK FARM ATMOSPHERIC STACK

- |   |  |
|---|--|
| 7. 0.06#/HR. $\text{TiCl}_4$<br>0.13#/HR. HCL | 11. 0.21#/HR. $\text{TiCl}_4$<br>0.48#/HR. HCL                                     |
| 8. 1.18#/HR. $\text{TiCl}_4$<br>2.61#/HR. HCL |  |
| 9. 0.93#/HR. $\text{TiCl}_4$<br>2.06#/HR. HCL |  |
| 10. 15,000#/HR. $\text{H}_2\text{O}$          | 12. 1.96#/HR. $\text{TiCl}_4$<br>4.32#/HR. HCL<br>15,000#/HR. $\text{H}_2\text{O}$ |

TOTAL  $\text{TiCl}_4$  ENTERING =  $.06 + 1.18 + .93 = 2.17\text{\#/HR.}$

TOTAL  $\text{TiCl}_4$  REMOVED =  $1.96\text{\#/HR.}$

OVERALL EFFICIENCY =  $1.96/2.17 \times 100\% = 90\%$

APPLICATION FOR PERMIT  
PROCESSREV. 10/8/73  
P-2, PAGE 1 OF 18

SHERWIN-WILLIAMS CHEMICALS DIV.

1. Facility Name ASHTABULA PLANTPerson to Contact T. C. GILLENCity Address 2900 MIDDLE ROADMailing Address P. O. Box 310

Street

Street

ASHTABULA TOWNSHIPASHTABULA44004ASHTABULAOHIO44004

City, Village or Township

County

Zip

City

State

Zip

Telephone 216998-1825

Area Code

Number

2. This application is submitted for:

☒ Permit to operate an existing source☐ Permit to construct a new source or modify an existing source☐ Variance from regulation(s) \_\_\_\_\_ for \_\_\_\_\_ months

3. Check-list of information to accompany this application:

☐ Plans and drawings☒ Emission tests or calculations☒ Process flow diagram☐ Compliance time schedule☐ Construction schedule☐ Additional information4. Name of process TIDOX OPERATION - TITANIUM DIOXIDE PROCESS (P-2) Year installed 19695. Product of this process TIDOX TITANIUM DIOXIDE PIGMENT6. Process equipment PROCESS FLOW DIAGRAM ATTACHED

Your identification \_\_\_\_\_

7. Manufacturer \_\_\_\_\_

Make or model \_\_\_\_\_

8. Capacities (lbs/hr): Rated \_\_\_\_\_ Maximum \_\_\_\_\_

## OPERATING INFORMATION

9. Normal operating schedule: hrs/day 24 days/wk 7 wks/yr 4810. Percent annual production (finished units) by season: Winter 27% Spring 27% Summer 27% Fall 19%11. Hourly production rates (lbs): Average 6,696 Maximum 7,51312. Annual production (indicate units) 27,000 TONS/YR.13. Projected percent annual increase in production 3%14. Method of exhaust ventilation: ☒ Stack ☒ Window fan ☒ Roof vent ☐ Other, describe \_\_\_\_\_15. Type of process: ☒ Continuous ☐ Batch

16. If batch, minutes per cycle \_\_\_\_\_ minutes between cycles \_\_\_\_\_

17. Does process involve any of the following (check all applicable)? ☐ Lead ☐ Asbestos ☐ Beryllium ☐ Mercury

18. Materials used in process (include organic materials)

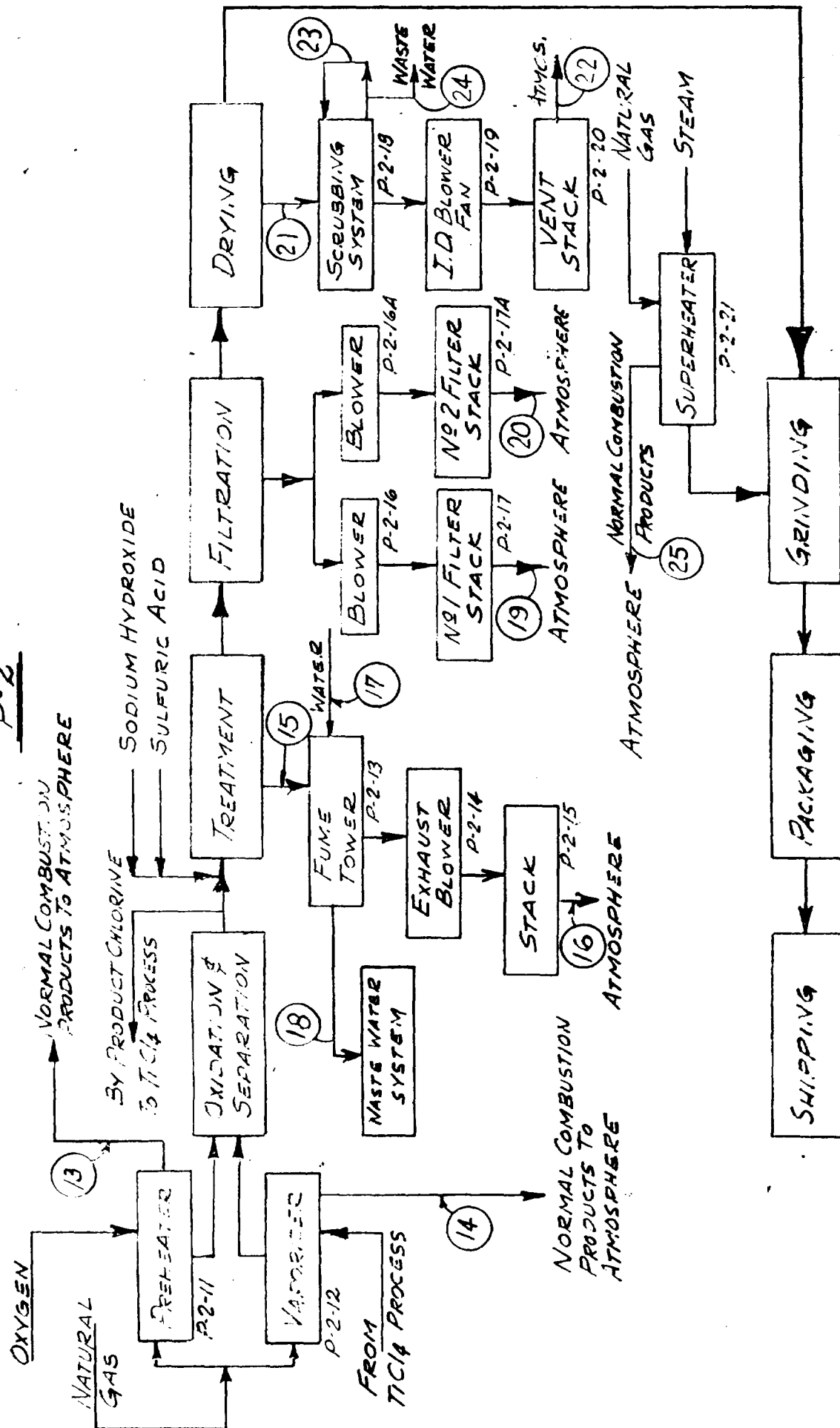
List of Raw Materials	Principal Use	Amount (lbs./hr.)
TITANIUM TETRACHLORIDE	CONVERTED TO TITANIUM DIOXIDE	14,921
OXYGEN	CONVERT $TiCl_4$ TO $TiO_2$	2,767
SULFURIC ACID	PIGMENT TREATMENT AND PH CONTROL	246
SODIUM HYDROXIDE	PIGMENT TREATMENT	483
		18,417

19. This application must include a detailed process flow diagram. Show entry and exit points of all raw materials, intermediate products, by-products and finished products. Label all materials including airborne contaminants and other waste materials.

Important Note: If emissions from this source have been determined by source tests, material balances or emission factors, include such data and supporting calculations with application.

# TITANIUM DIOXIDE PROCESS

P-2



FOR OFFICIAL USE ONLY

DATA SHEET

FUEL-FIRED INDIRECT HEAT EXCHANGER

Premise No. \_\_\_\_\_  
Source No. \_\_\_\_\_

Sherwin-Williams Chemicals Div.

City Name Ashtabula Plant

Person to Contact T. C. Gillen

Facility Address 2900 Middle Road  
Street

Mailing Address P. O. Box 310  
Street

Ashtabula Township Ashtabula 44004  
City, Village or Township County Zip

Ashtabula Ohio 44004  
City State Zip

Telephone 216 998-1825  
Area Code Number

2. This application is submitted for:

- ☐ Permit to operate an existing source  
☐ Permit to construct a new source or modify an existing source  
☐ Variance from regulation(s) \_\_\_\_\_ for \_\_\_\_\_ months

3. Check list of information to accompany this application:

- ☐ Plans and drawings ☐ Emission tests or calculations ☐ Process flow diagram  
☐ Compliance time schedule ☐ Construction schedule ☐ Additional information

4. Manufacturer John Zinc Model no. \_\_\_\_\_ Year installed 1969 Your I.D. Preheater

5. Input capacities (10<sup>6</sup> BTU/hr.): Rated 4.51 Max. 5.41 Normal 4.51 Plant load 4560#/hr

6. Percent used for: % space heat 0 % process 100 % power 0

7. Normal operating schedule: hrs./day 20-24 days/yr. 344

8. Types of fuel fired: ☐ Coal ☐ Oil ☒ Natural gas ☐ Wood ☐ LPG ☐ Other, specify \_\_\_\_\_

9. Heat release \_\_\_\_\_ BTU/ft<sup>3</sup> Type of combustion control Keiley-Mueller

10. Type of draft: ☐ Natural ☒ Induced ☐ Forced Overfire air jets: ☐ Yes ☒ No

11. Combustion monitoring: ☐ Fuel/air ratio ☐ O<sub>2</sub> ☐ Smoke ☐ Other, specify \_\_\_\_\_

COAL FIRED UNITS

12. Firing capacities (lbs./hr.): Rated \_\_\_\_\_ Max. \_\_\_\_\_ Normal \_\_\_\_\_

13. Type of firing: ☐ Hand-fired ☐ Underfeed stoker ☐ Traveling grate ☐ Chain grate ☐ Spreader stoker  
☐ Pulverized-dry bottom ☐ Pulverized-wet bottom ☐ Cyclones  
☐ Other, specify \_\_\_\_\_

14. Fly ash reinjection: ☐ yes ☐ no

15. Firing equipment mfr. \_\_\_\_\_ Make or model no. \_\_\_\_\_

16. Grate dimensions \_\_\_\_\_ Ash discharging: ☐ Manual ☐ Continuous

OIL FIRED UNITS

17. Atomization: ☐ Oil pressure ☐ Steam pressure ☐ Compressed air ☐ Rotary cup  
☐ Other, specify \_\_\_\_\_

18. Burner Mfr. \_\_\_\_\_ Model no. \_\_\_\_\_ No. of burners \_\_\_\_\_

19. Firing capacities (gal./hr.): Rated \_\_\_\_\_ Max. \_\_\_\_\_ Normal \_\_\_\_\_

20. Type of firing: ☐ Vertical ☐ Horizontal ☐ Tangential ☐ Opposed

21. Oil preheater: ☐ Yes Temp. \_\_\_\_\_ °F. ☐ No

FUEL DATA

22. Complete the following table for each type of fuel\*

Type of Fuel	Heat Cont. Btu/Unit	Percent Ash		Quantity of Fuel Used			Percent Annual Use			
		Grav	Sulfur	Per Year	Norm. Hr.	Max./Hr.	Spring	Summer	Fall	Winter
Coal										
Oil										
Gas	1000 btu/scf	Nil	0.0001	23.1 mm scf	3500 scf	5410 scf	27%	27%	19%	27%
Wood										
LPG										
Other										

\*Report fuel analysis on an as-received basis. Use weighted annual averages.

File provisions for combustion or tempered make-up air: \_\_\_\_\_

**Important Notes:** If emissions from this source have been determined by source tests, material balances or emission factors, include such data and supporting calculations with application.

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## DATA SHEET

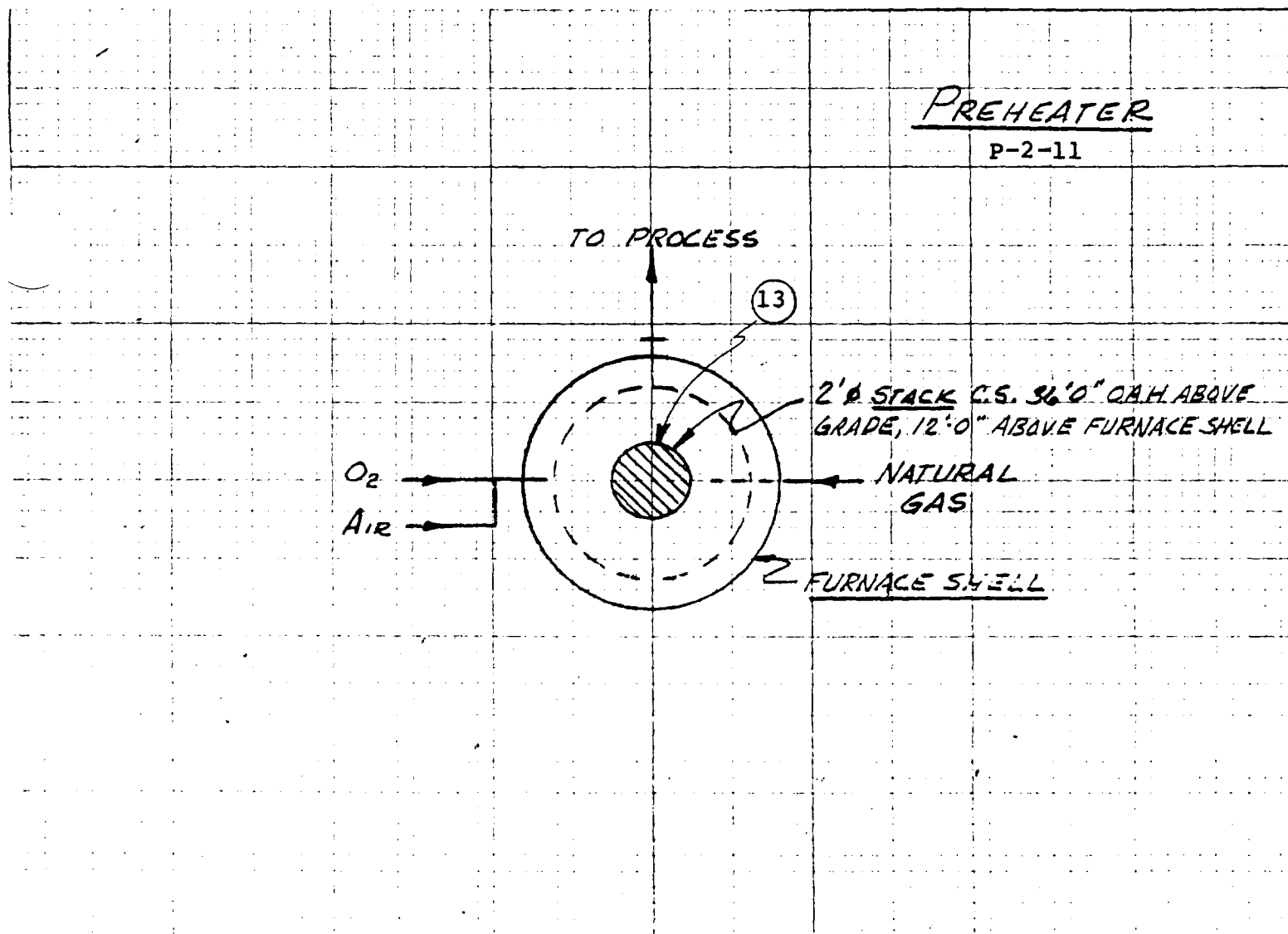
Rev. 10/8/73  
P-2, Page 4 of 18Premise No. \_\_\_\_\_  
Source No. \_\_\_\_\_

## STACKS AND OTHER EGRESS POINTS

Sherwin-Williams Chemicals Div.

Facility Name Ashtabula PlantPerson to Contact T. C. GillenFacility Address 2900 Middle Road  
StreetMailing Address P. O. Box 310  
StreetAshtabula Township Ashtabula 44004  
City, Village or Township County ZipAshtabula Ohio 44004  
City State ZipTelephone 216 998-1825  
Area Code Number

2. Type: ☒ Round ☐ Rectangular - top inside dimension(s) (L & W or Diam.) 2'Ø x 12'
3. Height: Above roof --- ft. Above ground 36'0 ft.
4. Exit gas: Temp. 650 F. Volume 1630 ACFM Velocity 520 feet per minute
5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_  
Manufacturer Petro-Chem. Development Make or model - Pollutant Normal combustion product
6. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



Important Note: If emissions from the above stack have been determined by performance testing or other means, include such data and supporting calculations with this data sheet.

Premise No. \_\_\_\_\_

Source No. \_\_\_\_\_

**FUEL-FIRED INDIRECT HEAT EXCHANGER****Sherwin-Williams Chemicals Div.**Facility Name **Ashtabula Plant**Person to Contact **T. C. Gillen**Facility Address **2900 Middle Road**  
StreetMailing Address **P. O. Box 310**  
Street**Ashtabula Township Ashtabula 44004**  
City/Village or Township County Zip**Ashtabula Ohio 44004**  
City State ZipTelephone **216** **998-1825**  
Area Code Number

2. This application is submitted for:

Permit to operate an existing source

Permit to construct a new source or modify an existing source

Variance from regulation(s) \_\_\_\_\_ for \_\_\_\_\_ months

3. Check-list of information to accompany this application:

Plans and drawings

Emission tests or calculations

☐ Process flow diagram

Compliance time schedule

Construction schedule

☐ Additional information4. Manufacturer **John Zinc Co.** Model no. **HEVR-20** Year installed **1969** Your I.D. **Vaporizer**5. Input capacities (10<sup>6</sup> BTU/hr.): Rated **3.84** Max. **4.6** Normal **3.84** Plant load **17,800#/hr**6. Percent used for: ☐ space heat **0** ☐ process **100** ☐ power **0**7. Normal operating schedule: hrs./day **20-24** days/yr. **344**8. Types of fuel fired: ☐ Coal ☐ Oil ☒ Natural gas ☐ Wood ☐ LPG ☐ Other, specify \_\_\_\_\_9. Heat release \_\_\_\_\_ BTU/ft<sup>3</sup> Type of combustion control **Kieley-Mueller**10. Type of draft: ☐ Natural ☒ Induced ☐ ForcedOverfire air jets: ☐ Yes ☒ No11. Combustion monitoring: ☐ Fuel/air ratio ☐ O<sub>2</sub> ☐ Smoke ☐ Other, specify \_\_\_\_\_**COAL FIRED UNITS**

12. Firing capacities (lbs./hr.): Rated \_\_\_\_\_ Max. \_\_\_\_\_ Normal \_\_\_\_\_

13. Type of firing: ☐ Hand-fired ☐ Underfeed stoker ☐ Traveling grate ☐ Chain grate ☐ Spreader stoker☐ Pulverized-dry bottom☐ Pulverized-wet bottom☐ Cyclones☐ Other, specify \_\_\_\_\_14. Fly ash reinjection: ☐ yes ☐ no

15. Firing equipment mfr. \_\_\_\_\_ Make or model no. \_\_\_\_\_

16. Grate dimensions \_\_\_\_\_ Ash discharging: ☐ Manual ☐ Continuous**OIL FIRED UNITS**17. Atomization: ☐ Oil pressure ☐ Steam pressure ☐ Compressed air ☐ Rotary cup☐ Other, specify \_\_\_\_\_

18. Burner Mfr. \_\_\_\_\_ Model no. \_\_\_\_\_ No. of burners \_\_\_\_\_

19. Firing capacities (gal. hr.): Rated \_\_\_\_\_ Max. \_\_\_\_\_ Normal \_\_\_\_\_

20. Type of firing: ☐ Vertical ☐ Horizontal ☐ Tangential ☐ Opposed21. Oil preheater: ☐ Yes Temp. \_\_\_\_\_ °F. ☐ No**FUEL DATA**

22. Complete the following table for each type of fuel:

Type of Fuel	Heat Cont. Btu Unit	Percent		Quantity of Fuel Used Per Year	Quantity of Fuel Used			Percent Annual Use			
		Ash	Sulfur		Norm. Hrs.	Max. Hrs.		Spring	Summer	Fall	Winter
Coal											
Oil											
Gas	1000 Btu/scf	Nil	0.00001	22.5 mm scf	3400 scf	4600 scf		27%	27%	19%	27%
Wood											
LPG											
Other											

\*Report fuel analysis on an as-received basis. Use weighted annual averages.

Describe provisions for combustion or tempered make-up air:

**Important Notes:** If emissions from this source have been determined by source tests, material balances or emission factors, include such data and supporting calculations with application.

## DATA SHEET

## STACKS AND OTHER EGRESS POINTS

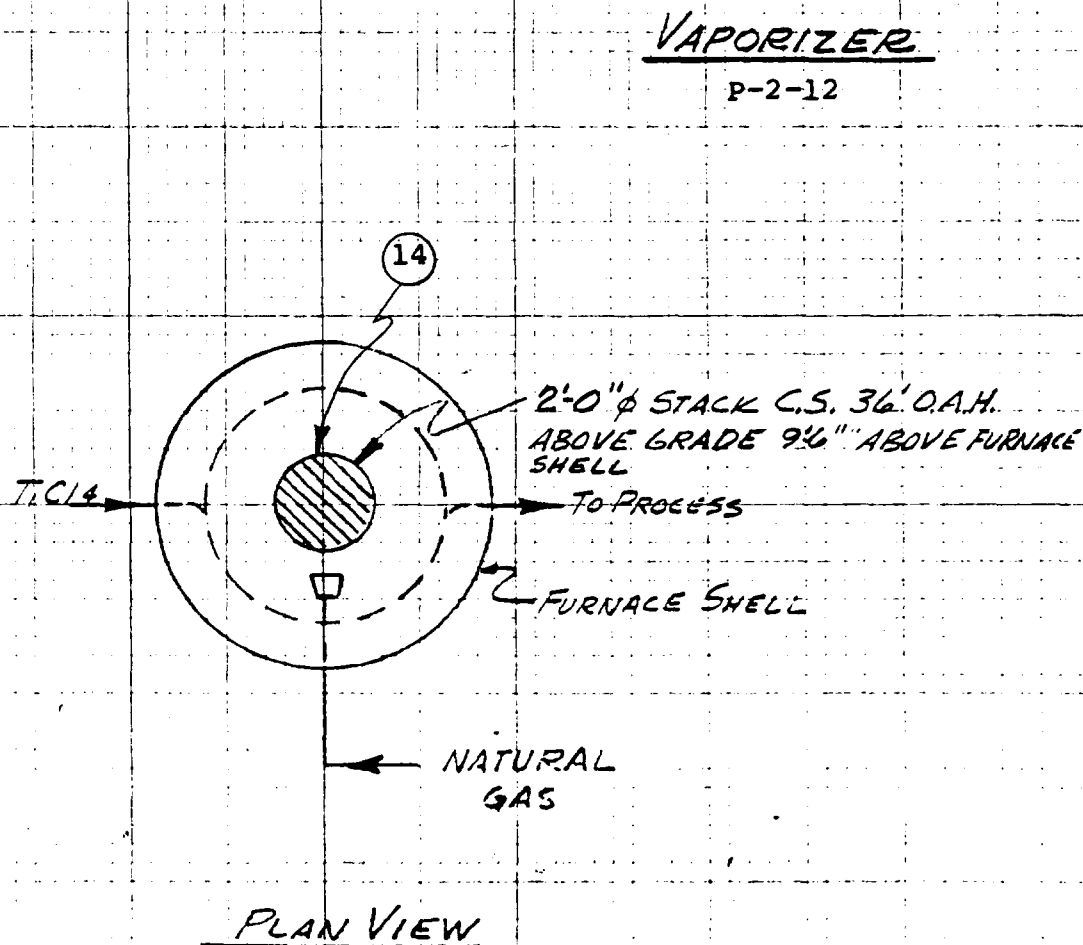
Rev. 10/8/73

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## Sherwin-Williams Chemicals Div.

1. City Name Ashtabula Plant Person to Contact T. C. GillenCity Address 2900 Middle Road Mailing Address P. O. Box 310  
Street StreetAshtabula Township Ashtabula 44004 Ashtabula Ohio 44004  
City, Village or Township County Zip City State ZipTelephone 216 998-1825  
Area Code Number

2. Type: ☒ Round Rectangular - top inside dimension(s) (L & W or Diam.) 2'0" x 9'6"
3. Height: Above roof 7 ft. Above ground 35' ft.
4. Exit gas Temp. 550 F. Volume 1430 ACFM Velocity 455 feet per minute
5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_  
Manufacturer Petro-Chem. Development Make or model 7 Pollutant Normal Combustion Products
6. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



1. at Note: If emissions from the above stack have been determined by performance testing or other means, include such data and supporting calculations with this data sheet.

STACKS AND OTHER EGRESS POINTS

SHERWIN-WILLIAMS CHEMICALS DIV.

Facility Name ASHTABULA PLANT

Person to Contact

T. C. GILLEN

Facility Address 2900 MIDDLE ROAD

Mailing Address

P. O. Box 310

ASHTABULA TOWNSHIP

ASHTABULA

44004

ASHTABULA

OHIO

44004

City, Village or Township

County

Zip

City

State

Zip

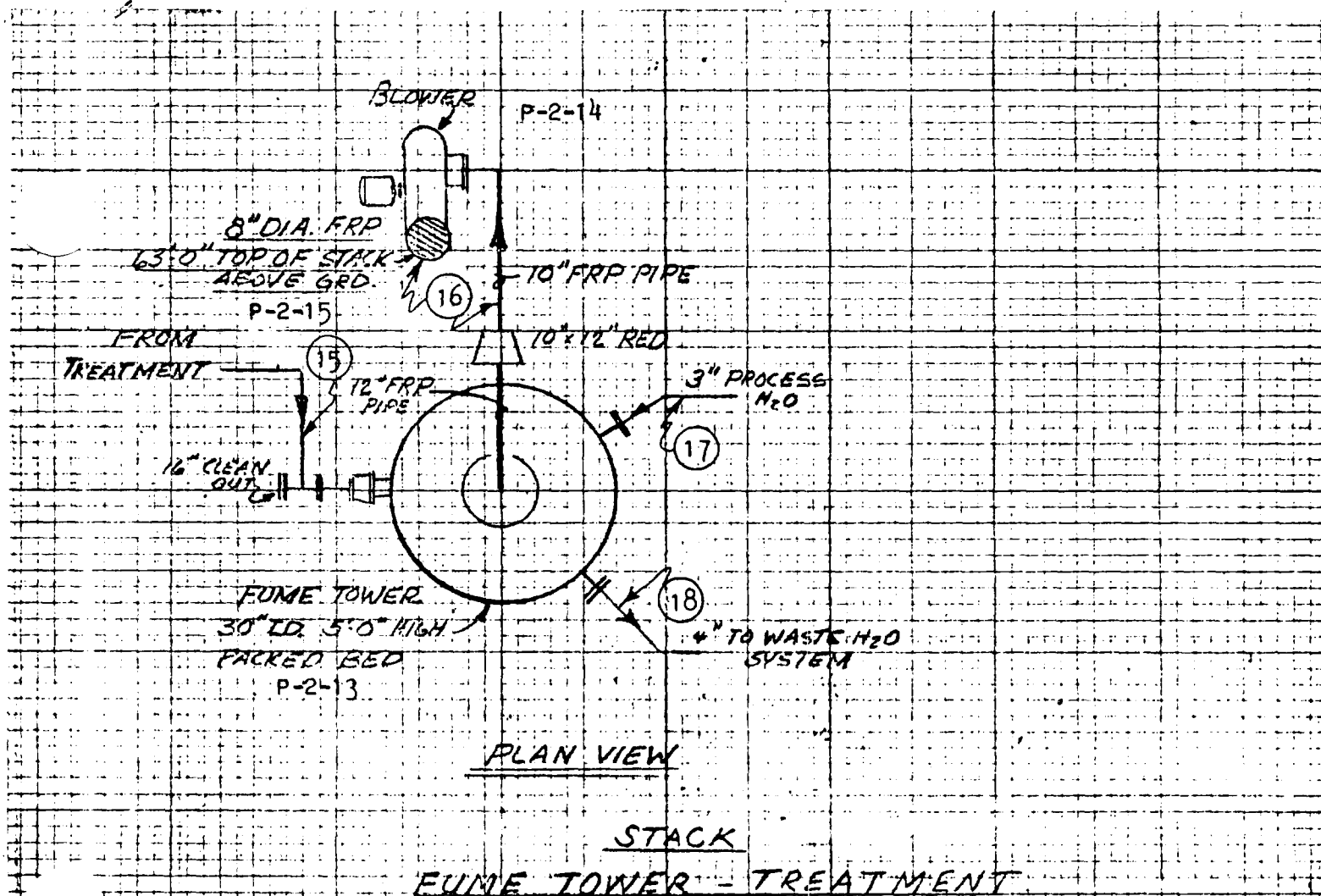
Telephone 216

Area Code

998-1825

Number

2. Type: ☒ Round ☐ Rectangular - top inside dimension(s) (L & W or Diam.), 8" x 63'0"
3. Height: Above roof \_\_\_\_\_ ft. Above ground 63'0" ft.
4. Exit gas: Temp. 84 °F. Volume 1300 ACFM Velocity 3720 feet per minute
5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_  
Manufacturer AMERCOAT CORP. Make or model POLYESTER PIPE Pollutant CL<sub>2</sub>
6. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



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Premise No.           Source No.           

# DATA SHEET CONTROL EQUIPMENT

 REV. 10/8/73  
 P-2, PAGE 8 OF 18

SHERWIN-WILLIAMS CHEMICALS DIV.

Facility Name ASHTABULA PLANTPerson to Contact T. C. GILLENFacility Address 2900 MIDDLE ROAD  
StreetMailing Address P. O. Box 310  
StreetASHTABULA TOWNSHIPASHTABULA44004ASHTABULAOHIO44004

City, Village or Township

County

Zip

City

State

Zip

Telephone 216

Area Code

998-1825

Number

## 2. Type of gas cleaning equipment (check one):

- ☐ Settling chamber    ☐ Cyclone    ☐ Multiple cyclone    ☐ Electrostatic precipitator    ☐ Fabric filter  
☒ Absorber    ☐ Incineration    ☐ Wet collector, type                         ☐ Adsorber

A separate "Data Sheet for Control Equipment" must be completed for each control device. Stack data should be shown on form AP-PS-07, "Data Sheet -- Stacks and Other Egress Points".

3. Manufacturer U. S. STONEWARE CO. Model No. VENT SCRUBBER/1650 Year installed 1968  
 4. Your identification 1213-3558-1 Pollutant(s) controlled CL<sub>2</sub>  
 5. Design efficiency UNKNOWN Pressure drop across collector UNKNOWN in. H<sub>2</sub>O  
 6. Efficiency (operating - if known) 95%\* Controlled pollutant emission rate (if known) SEE ATTACHED  
 7. Total installed capital equipment cost \$5,190 SHEET

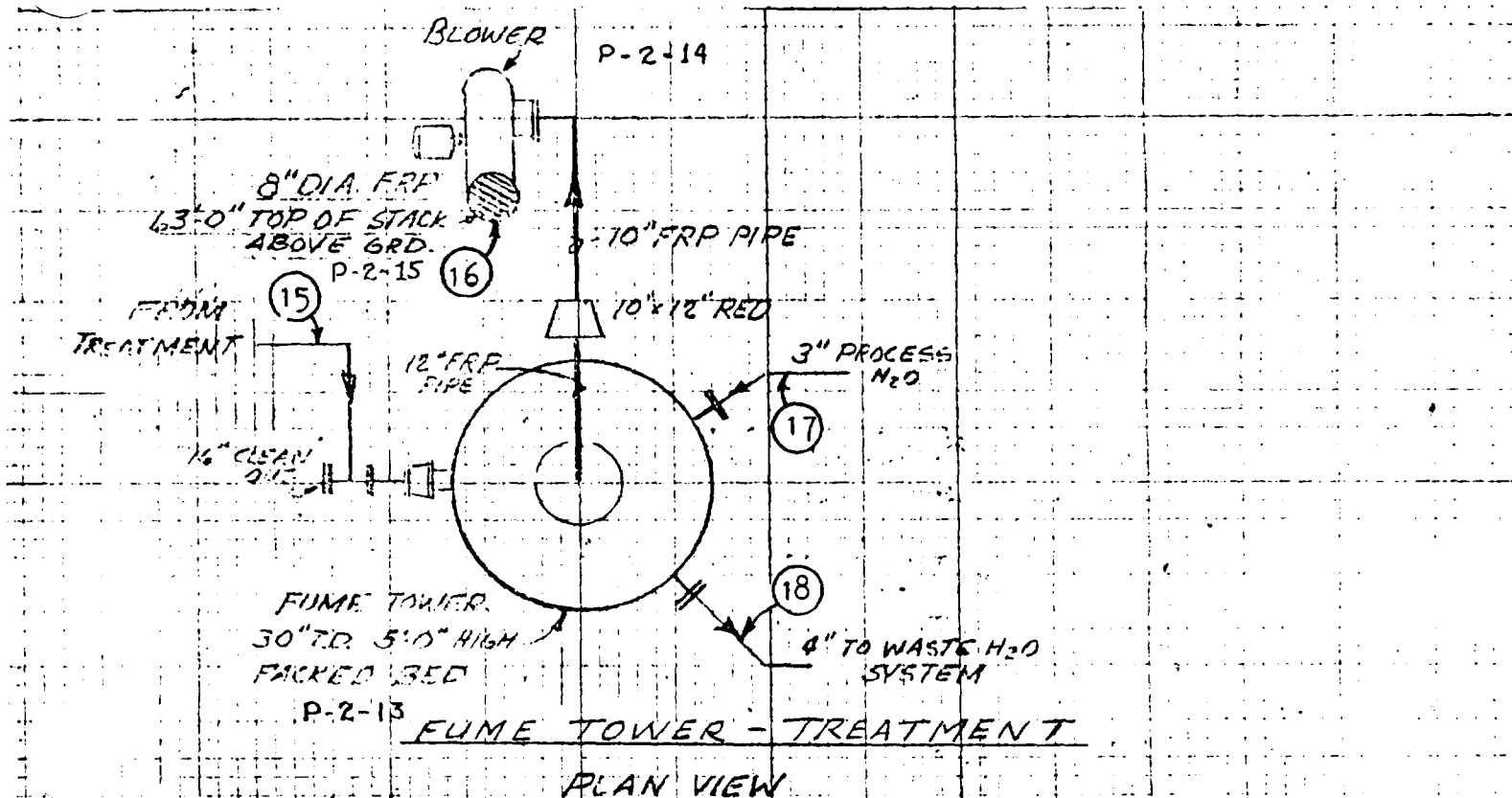
\* CALCULATIONS ON ATTACHED SHEET.

## FAN DATA

8. Type: ☐ Axial    ☒ Centrifugal    RPM 3600 HP 10 Static pressure 16"  
 9. Volume 1800 ACFM at AMBIENT No. of fans in system ONE

## CAPTURE AND TRANSPORT DATA

10. Ductwork detail: Draw a plan view of the source equipment and air cleaning equipment. Indicate transport velocity in actual feet per minute, total system resistance in inches of water, and gas moisture content temperature. Include such other pertinent information as: dimensions, elbows, duct material, dampers, cleanouts. When required for fire prevention show fire dampers, electrical interlocks with burners.



STREAM CHARACTERISTICS - FUME TOWER TREATMENT

15. 4#/HR.  $\text{CL}_2$

16. 0.2#/HR.  $\text{CL}_2$

17. 37,500#/HR.  $\text{H}_2\text{O}$

18. 3.8#/HR.  $\text{CL}_2$   
37,500#/HR.  $\text{H}_2\text{O}$

$\text{CL}_2$  REMOVED = 3.8#/HR.

EFFICIENCY =  $3.8/4.0 \times 100\% = 95\%$

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# DATA SHEET

## STACKS AND OTHER EGRESS POINTS

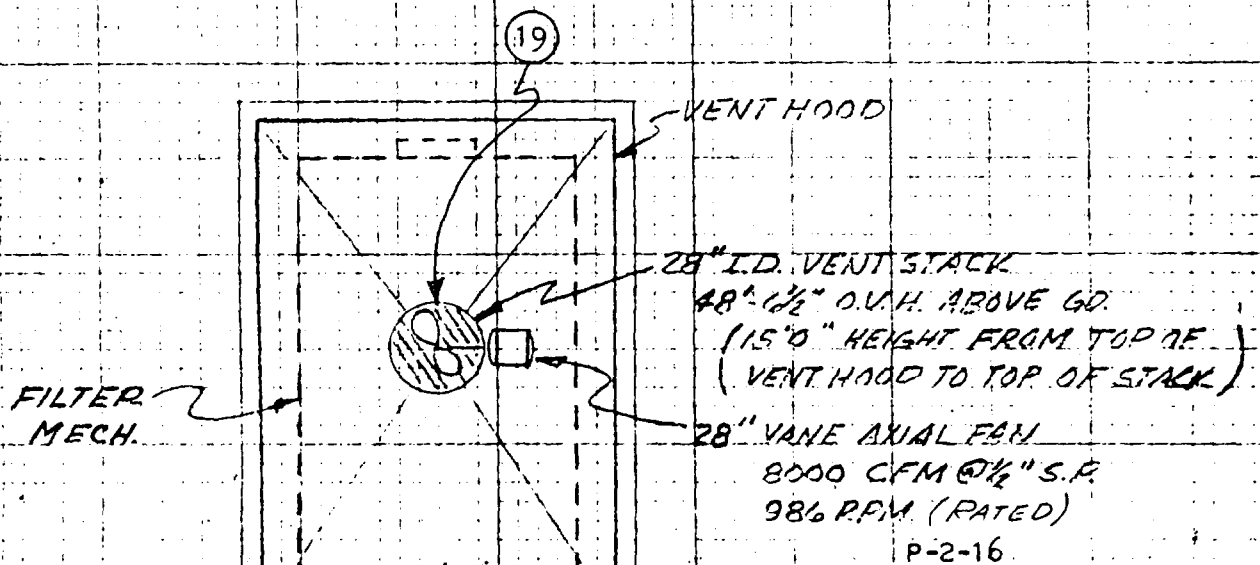
Form No. \_\_\_\_\_  
Source No. \_\_\_\_\_

SHERWIN-WILLIAMS CHEMICALS DIV.

1. City Name ASHTABULA PLANT Person to Contact T. C. GILLEN  
Facility Address 2900 MIDDLE ROAD Mailing Address P. O. Box 310  
City, Village or Township ASHTABULA TOWNSHIP County ASHTABULA Zip 44004 City ASHTABULA State OHIO Zip 44004  
Telephone 216 Area Code 28" x 15'0" Number 998-1825

2. Type: ☒ Round ☐ Rectangular - top inside dimension(s) (L & W or Diam.) \_\_\_\_\_  
3. Height: Above roof 15'0" ft. Above ground 48'6 1/2" ft.  
4. Exit gas: Temp. 90 °F. Volume 4,275 ACFM Velocity 1000 feet per minute  
5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_  
Manufacturer DAVIDSON ROOF VENT Make or model S.S. SIZE 34 Pollutant PARTICULATES

6. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



FILTRATION VENT STACK

NO. 1 FILTER STACK

P-2-17

PLAN VIEW

STREAM CHARACTERISTICS - NO. 1 FILTER STACK

19. 0.05#/HR. PARTICULATES

## STACKS AND OTHER EGRESS POINTS

SHERWIN-WILLIAMS CHEMICALS DIV.

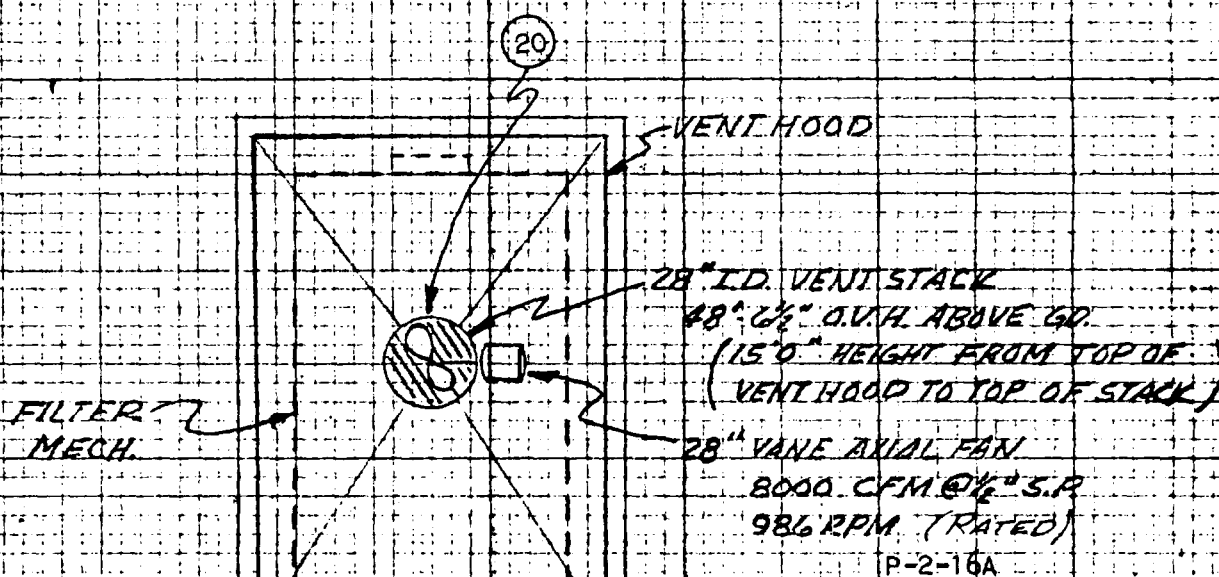
Facility Name ASHTABULA PLANTPerson to Contact T. C. GILLENFacility Address 2900 MIDDLE ROADMailing Address P. O. Box 310

Street  
ASHTABULA TOWNSHIP  
 City, Village or Township  
ASHTABULA  
 County  
44004  
 Zip

Street  
ASHTABULA  
 City  
OHIO  
 State  
44004  
 Zip

Telephone 216  
 Area Code  
998-1825  
 Number

2. Type: ☒ Round ☐ Rectangular - top inside dimension(s) (L & W or Diam.), 28" x 15'0"
3. Height: Above roof 15'0" ft. Above ground 48'6 1/2" ft.
4. Exit gas: Temp. 90 °F. Volume 4,275 ACFM Velocity 1000 feet per minute
5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_  
 Manufacturer DAVIDSON ROOF VENT Make or model S.S. SIZE 34 Pollutant PARTICULATES
6. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



NO. 2 FILTER STACK

P-2-17A

PLAN VIEW

FILTRATION VENT STACK

STREAM CHARACTERISTICS - NO. 2 FILTER STACK

20. 0.05#/HR. PARTICULATES

STACKS AND OTHER EGRESS POINTS

SHERWIN-WILLIAMS CHEMICALS DIV.

ASHTABULA PLANT

Person to Contact

T. C. GILLEN

Facility Address 2900 MIDDLE ROAD

Mailing Address

P. O. Box 310

Street

Street

ASHTABULA TOWNSHIP

ASHTABULA

44004

ASHTABULA

OHIO

44004

City, Village or Township

County

Zip

City

State

Zip

Telephone 216

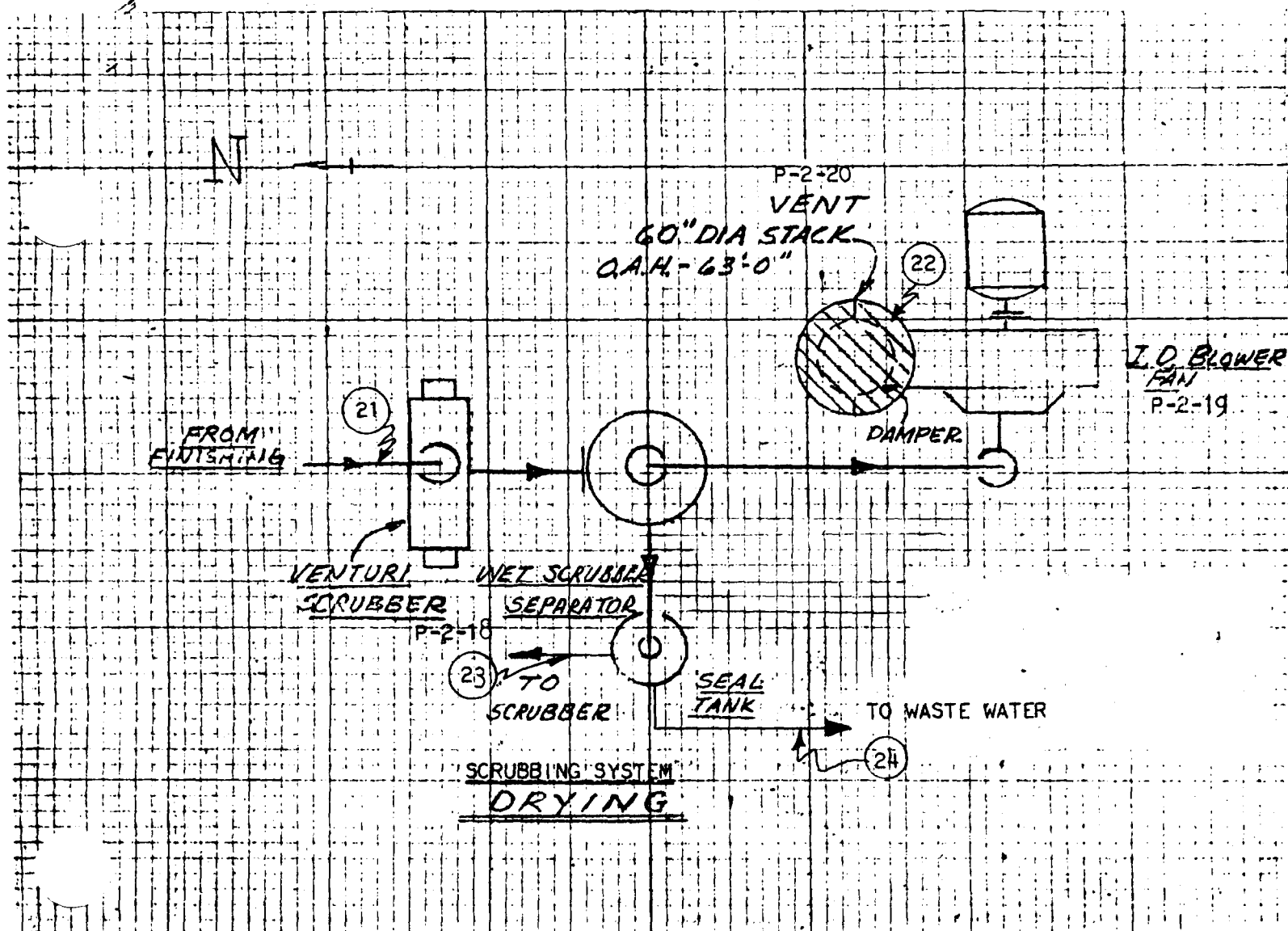
998-1825

Area Code

60" x 63'0"

Number

2. Type: ☒ Round ☐ Rectangular - top inside dimension(s) (L & W or Diam.), 60" x 63'0"
3. Height: Above roof \_\_\_\_\_ ft. Above ground 63'0" ft.
4. Exit gas Temp. 138 °F. Volume 15,220 ACFM Velocity 775 feet per minute
5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_  
Manufacturer NEWARK WELDING AND FABRICATION Make or model NONE Pollutant PARTICULATES
6. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



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Premise No. \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Source No. \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

# DATA SHEET CONTROL EQUIPMENT

 REV. 10/8/73  
 P-2, PAGE 15 OF 18

SHERWIN-WILLIAMS CHEMICALS DIV.

 1. Facility Name ASHTABULA PLANT Person to Contact T. C. GILLEN

 Facility Address 2900 MIDDLE ROAD Mailing Address P. O. Box 310  
 Street Street

ASHTABULA TOWNSHIP ASHTABULA 44004 ASHTABULA OHIO 44004  
 City, Village or Township County Zip City State Zip

 Telephone 216 998-1825  
 Area Code Number

## 2. Type of gas cleaning equipment (check one):

- ☐ Settling chamber    ☐ Cyclone    ☐ Multiple cyclone    ☐ Electrostatic precipitator    ☐ Fabric filter  
☒ Absorber    ☐ Incineration    ☐ Wet collector, type \_\_\_\_\_    ☐ Adsorber

A separate "Data Sheet for Control Equipment" must be completed for each control device. Stack data should be shown on form AP-PS-07, "Data Sheet -- Stacks and Other Egress Points".

3. Manufacturer CHEMICAL CONSTRUCTION CORP. Model No. \_\_\_\_\_ Year installed 1968  
 4. Your identification 1223-3661-32 Pollutant(s) controlled (TiO<sub>2</sub>) PARTICULATES  
 5. Design efficiency 98.5% Pressure drop across collector 40 in. H<sub>2</sub>O  
 6. Efficiency (operating - if known) 97.7%\* Controlled pollutant emission rate (if known) SEE ATTACHED SHEET  
 7. Total installed capital equipment cost \$34,050

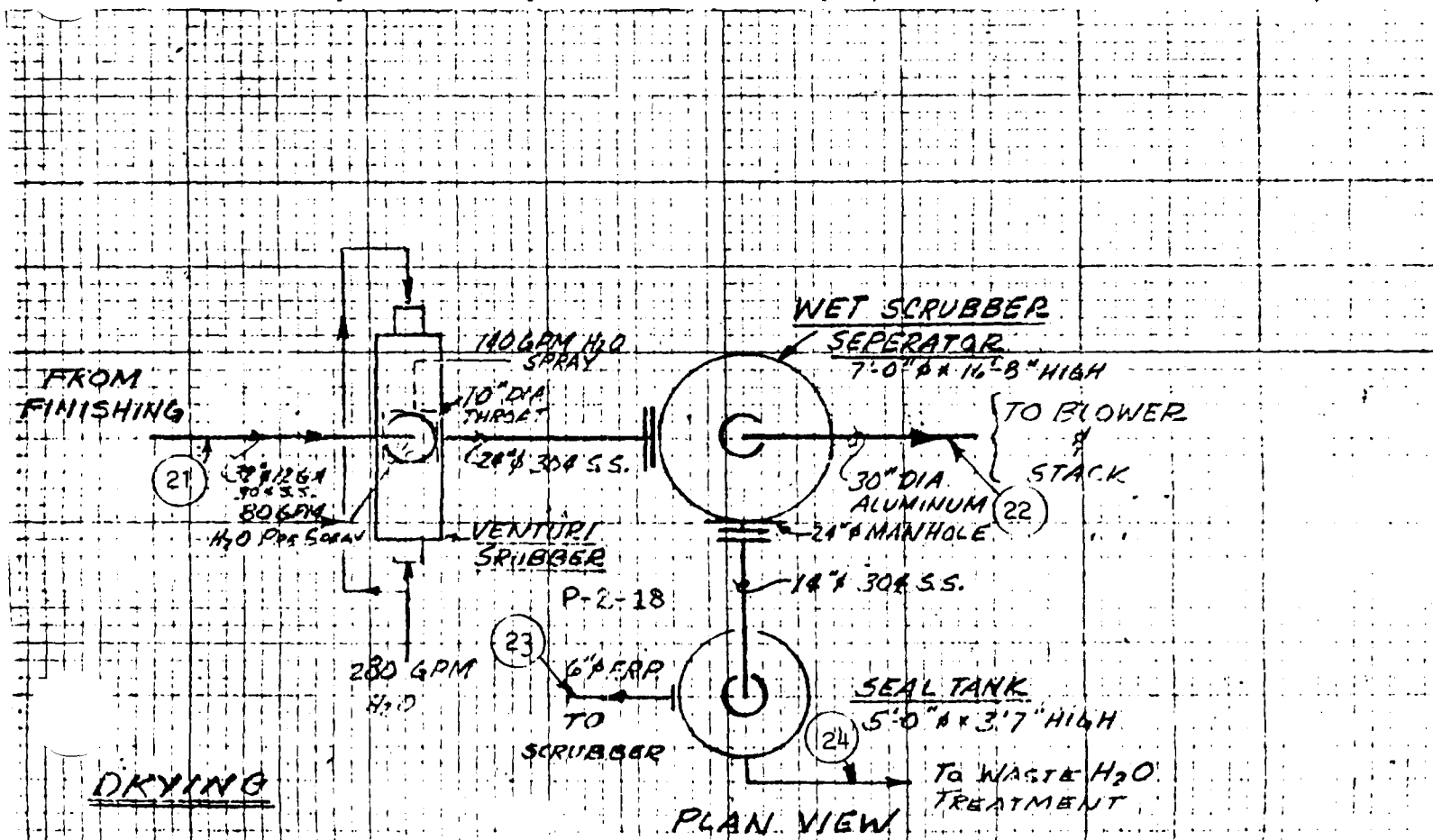
\* CALCULATIONS ON ATTACHED SHEET

FAN DATA

8. Type: ☐ Axial    ☒ Centrifugal    RPM 3550 HP 350 Static pressure 12.3  
 9. Volume 26,000 ACFM at 138 °F. No. of fans in system ONE

## CAPTURE AND TRANSPORT DATA

10. Ductwork detail: Draw a plan view of the source equipment and air cleaning equipment. Indicate transport velocity in actual feet per minute, total system resistance in inches of water, and gas moisture content temperature. Include such other pertinent information as: dimensions, elbows, duct material, dampers, cleanouts. When required for fire prevention show fire dampers, electrical interlocks with burners,



STREAM CHARACTERISTICS - DRYING

21. 106.5#/HR.  $\text{TiO}_2$

22. 2.5#/HR.  $\text{TiO}_2$

23. 95.6#/HR.  $\text{TiO}_2$   
250,000#/HR.  $\text{H}_2\text{O}$

24. 8.4#/HR.  $\text{TiO}_2$   
70,000#/HR.  $\text{H}_2\text{O}$

$\text{TiO}_2$  REMOVED = 104#/HR.

EFFICIENCY =  $104/106.5 \times 100\% = 97.7\%$

Premise No. \_\_\_\_\_  
Source No. \_\_\_\_\_

## FUEL-FIRED INDIRECT HEAT EXCHANGER

Sherwin-Williams Chemicals Div.

Facility Name Ashtabula Plant Person to Contact T. C. GillenFacility Address 2900 Middle Road Mailing Address P. O. Box 310  
Street StreetAshtabula Township Ashtabula 44004 Ashtabula Ohio 44004  
City, Village or Township County Zip City State ZipTelephone 216 998-1825  
Area Code Number

## 2. This application is submitted for:

- ☐ Permit to operate an existing source  
☐ Permit to construct a new source or modify an existing source  
☐ Variance from regulation(s) \_\_\_\_\_ for \_\_\_\_\_ months

## 3. Check list of information to accompany this application:

- ☐ Plans and drawings ☐ Emission tests or calculations ☐ Process flow diagram  
☐ Compliance time schedule ☐ Construction schedule ☐ Additional information

4. Manufacturer John Zinc Co. Model no. VYR-12 Year installed 1969 Your I.D. Superheater  
 5. Input capacities (10<sup>6</sup> BTU/hr.): Rated 2.48 Max. 3.0 Normal 2.48 Plant load 10,000-15,000+  
 6. Percent used for: ☐ space heat 0 ☐ process 100 ☐ power 0 per hour  
 7. Normal operating schedule: hrs./day 20-24 days/yr. 344 (15,000#/hr rated)  
 8. Types of fuel fired: ☐ Coal ☐ Oil ☒ Natural gas ☐ Wood ☐ LPG ☐ Other, specify \_\_\_\_\_  
 9. Heat release \_\_\_\_\_ BTU/ft<sup>3</sup> Type of combustion control Kieley-Mueller  
 10. Type of draft: ☐ Natural ☒ Induced ☐ Forced Overfire air jets: ☐ Yes ☒ No  
 11. Combustion monitoring: ☐ Fuel/air ratio ☐ O<sub>2</sub> ☐ Smoke ☐ Other, specify \_\_\_\_\_

## COAL FIRED UNITS

12. Firing capacities (lbs./hr.): Rated \_\_\_\_\_ Max. \_\_\_\_\_ Normal \_\_\_\_\_  
 13. Type of firing: ☐ Hand-fired ☐ Underfeed stoker ☐ Traveling grate ☐ Chain grate ☐ Spreader stoker  
☐ Pulverized-dry bottom ☐ Pulverized-wet bottom ☐ Cyclones  
☐ Other, specify \_\_\_\_\_  
☐ Fly ash reinjection: ☐ yes ☐ no  
 15. Firing equipment mfr. \_\_\_\_\_ Maker or model no. \_\_\_\_\_  
 16. Grate dimensions \_\_\_\_\_ Ash discharging: ☐ Manual ☐ Continuous

## OIL FIRED UNITS

17. Atomization: ☐ Oil pressure ☐ Steam pressure ☐ Compressed air ☐ Rotary cup  
☐ Other, specify \_\_\_\_\_  
 18. Burner Mfr. \_\_\_\_\_ Model no. \_\_\_\_\_ No. of burners \_\_\_\_\_  
 19. Firing capacities (gal./hr.): Rated \_\_\_\_\_ Max. \_\_\_\_\_ Normal \_\_\_\_\_  
 20. Type of firing: ☐ Vertical ☐ Horizontal ☐ Tangential ☐ Opposed  
 21. Oil preheater: ☐ Yes Temp. \_\_\_\_\_ °F. ☐ No

## FUEL DATA

## 22. Complete the following table for each type of fuel:

Type of Fuel	Heat Cont. BTU Unit	Percent		Quantity of Fuel Used			Percent Annual Use			
		Ash	Sulfur	Per Year	Norm. Hr.	Max. /Hr.	Spring	Summer	Fall	Winter
Coal										
Oil										
Gas	1000 Btu/scf	Nil	0.00001	13.2 mm scf	2000 scf	3000 scf	27%	27%	19%	27%
Wood										
LPG										
Other										

\*Report fuel analysis on an as-received basis. Use weighted annual averages.

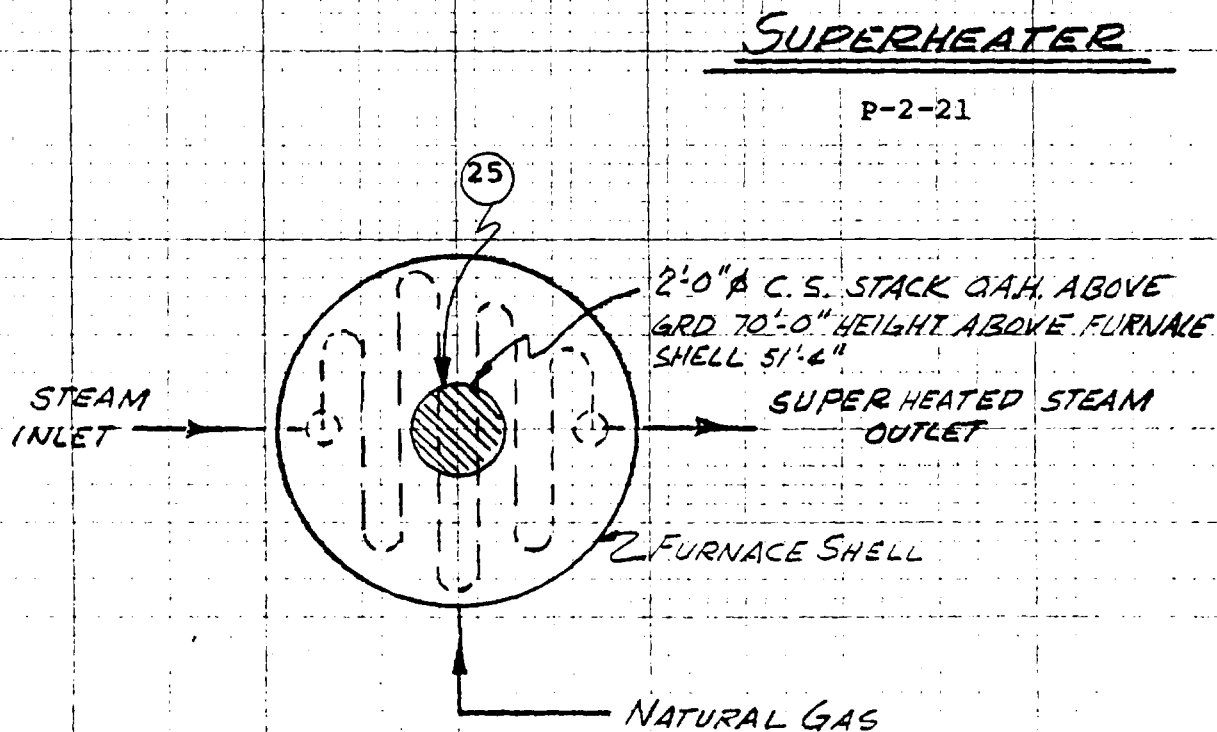
Describe provisions for combustion or tempered make-up air: \_\_\_\_\_

**Important Notes:** If emissions from this source have been determined by source tests, material balances or emission factors, include such data and supporting calculations with application.

## STACKS AND OTHER EGRESS POINTS

Sherwin-Williams Chemicals Div.

1. Facility Name Ashtabula Plant Person to Contact T. C. Gillen
- City Address 2900 Middle Road Mailing Address P. O. Box 310  
Street Street
- Ashtabula Township Ashtabula 44004 Ashtabula Ohio 44004  
City or Township County Zip City State Zip
- Telephone 216 998-1825  
Area Code Number
2. Type: ☒ Rectangular - top inside dimension(s) (L & W or Diam.) 2'0" x 51'4"
3. Height: Above roof - ft. Above ground 70 ft.
4. Exit Gas Temp. 400 F. Volume 720 ACFM Velocity 230 feet per minute
5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_  
 Manufacturer Petro-Chem. Development Make or model - Pollutant Normal Combustion Products
6. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



**Note:** If emissions from the above stack have been determined by performance testing or other means, include such data and supporting calculations with this data sheet.

# APPLICATION FOR PERMIT

## FUEL-FIRED INDIRECT HEAT EXCHANGER

REV. 10/8/73

No. 1 BOILER

PAGE 1 OF 2

SHERWIN-WILLIAMS CHEMICALS DIV.

1. Facility Name ASHTABULA PLANT Person to Contact T. C. GILLENCity Address 2900 MIDDLE ROAD Mailing Address P. O. Box 310  
Street StreetASHTABULA TOWNSHIP ASHTABULA 44004 ASHTABULA OHIO 44004  
City, Village or Township County Zip City State ZipTelephone 216 998-1825  
Area Code Number

2. This application is submitted for:

- ☒ Permit to operate an existing source  
☐ Permit to construct a new source or modify an existing source  
☐ Variance from regulation(s) \_\_\_\_\_ for \_\_\_\_\_ months

3. Check-list of information to accompany this application:

- ☐ Plans and drawings ☐ Emission tests or calculations ☐ Process flow diagram  
☐ Compliance time schedule ☐ Construction schedule ☒ Additional information

4. Manufacturer RILEY-STOKES CORP. Model no. MH Year installed 1969 Your I.D. #1 BOILER5. Input capacities (10<sup>6</sup> BTU/hr.): Rated 62 Max. 69 Normal 50 Plant load 22,500#/HR. STEAM6. Percent used for: % space heat 5 % process 95 % power 07. Normal operating schedule: hrs./day 20-24 days/yr. 3448. Types of fuel fired: ☐ Coal ☒ Oil ☒ Natural gas ☐ Wood ☐ LPG ☐ Other, specify \_\_\_\_\_9. Heat release \_\_\_\_\_ BTU/ft<sup>3</sup> Type of combustion control COEN AUTOMATIC CONTROLS10. Type of draft: ☐ Natural ☐ Induced ☒ Forced Overfire air jets: ☐ Yes ☒ No11. Combustion monitoring: ☒ Fuel/air ratio ☒ O<sub>2</sub> ☐ Smoke ☒ Other, specify CARBON DIOXIDE CONTENT**COAL FIRED UNITS**

12. Firing capacities (lbs./hr.): Rated \_\_\_\_\_ Max. \_\_\_\_\_ Normal \_\_\_\_\_

13. Type of firing: ☐ Hand-fired ☐ Underfeed stoker ☐ Traveling grate ☐ Chain grate ☐ Spreader stoker  
☐ Pulverized-dry bottom ☐ Pulverized-wet bottom ☐ Cyclones  
☐ Other, specify \_\_\_\_\_14. ash recirculation: ☐ yes ☐ no

15. Firing equipment mfr. \_\_\_\_\_ Make or model no. \_\_\_\_\_

16. Grate dimensions \_\_\_\_\_ Ash discharging: ☐ Manual ☐ Continuous**OIL FIRED UNITS**17. Atomization: ☐ Oil pressure ☒ Steam pressure ☐ Compressed air ☐ Rotary cup  
☐ Other, specify \_\_\_\_\_18. Burner mfr. COEN Model no. #2 MV No. of burners ONE19. Firing capacities (gal./hr.): Rated 430 Max. 475 Normal 34520. Type of firing: ☐ Vertical ☒ Horizontal ☐ Tangential ☐ Opposed21. Oil preheater: ☐ Yes Temp. \_\_\_\_\_ °F. ☒ No**FUEL DATA**

22. Complete the following table for each type of fuel\*

Type of Fuel	Heat Cont. BTU Unit	Percent		Quantity of Fuel Used			Percent Annual Use			
		Ash	Sulfur	Per Year	Norm. Hr.	Max. Hr.	Spring	Summer	Fall	Winter
Coal										
Oil	140,000/GAL.	NIL	0.23	45,000 GAL.	345 GAL.	475 GAL.	10	10	10	70
Gas	1000/SCF	NIL	0.00001	211.5MM SCF	50,000 SCF	69,000	27	27	19	27
Wood										
LPG										
Other										

\*Report fuel analysis on an as-received basis. Use weighted annual averages.

Provide provisions for combustion or tempered make-up air: \_\_\_\_\_

**Important Notes:** If emissions from this source have been determined by source tests, material balances or emission factors, include such data and supporting calculations with application.

## DATA SHEET

## STACKS AND OTHER EGRESS POINTS

Rev. 10/8/73

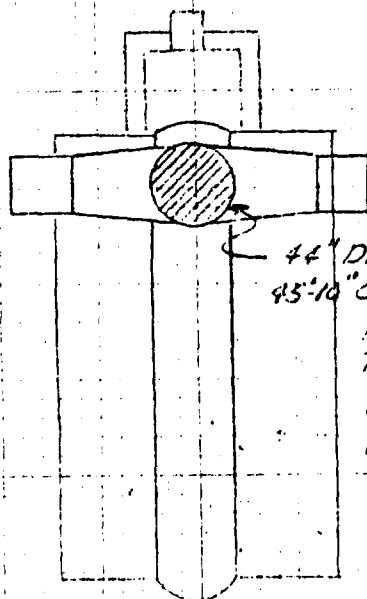
No. 1 Boiler

Page 2 of 2

## Sherwin-Williams Chemicals Div.

1. Facility Name Ashtabula Plant Person to Contact T. C. GillenFacility Address 2900 Middle Road Mailing Address P. O. Box 310  
Street StreetAshtabula Township Ashtabula 44004 Ashtabula Ohio 44004  
City, Village or Township County Zip City State ZipTelephone 216 998-1825  
Area Code Number

2. Type: ☒ Round ☐ Rectangular - top inside dimension(s) (L & W or Diam.) 44"Ø x 18'6"
3. Height: Above roof 12'0" ft. Above ground 45'10" ft.
4. Exit gas: Temp. 450 °F. Volume 19,000 ACFM Velocity 1800 feet per minute
5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_  
Manufacturer Union Iron Works Make or model MH Pollutant Normal Combustion Products
6. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



44" DIA C.S. STACK  
 45'10" O.A.H. OF STACK ABOVE GRD.  
 HEIGHT OF STACK TO TOP OF BOILER TO  
 TOP OF STACK 18'6"  
 CLEAR HEIGHT OF STACK ABOVE ROOF  
 LINE 12'0"

BOILER No. 1  
PLAN VIEW

Important Note: If emissions from the above stack have been determined by performance testing or other means, include such data and supporting calculations with this data sheet.

Premise No. \_\_\_\_\_  
Source No. \_\_\_\_\_APPLICATION FOR PERMIT  
FUEL-FIRED INDIRECT HEAT EXCHANGERREV. 10/8/73  
No. 2 BOILER  
PAGE 1 OF 2.

## SHERWIN-WILLIAMS CHEMICALS DIV.

1. Facility Name ASHTABULA PLANT Person to Contact T. C. GILLEN  
 Utility Address 2900 MIDDLE ROAD Mailing Address P. O. Box 310  
 Street Street  
ASHTABULA TOWNSHIP ASHTABULA 44004 ASHTABULA OHIO 44004  
 City, Village, or Township County Zip City State Zip  
 Telephone 216 998-1825  
 Area Code Number

2. This application is submitted for:

- ☒ Permit to operate an existing source  
☐ Permit to construct a new source or modify an existing source  
☐ Variance from regulation(s) \_\_\_\_\_ for \_\_\_\_\_ months

3. Check-list of information to accompany this application:

- ☐ Plans and drawings ☐ Emission tests or calculations ☐ Process flow diagram  
☐ Compliance time schedule ☐ Construction schedule ☒ Additional information

4. Manufacturer RILEY-STOKES CORP. Model no. MH Year installed 1969 Your I.D. #2 BOILER  
 5. Input capacities (10<sup>6</sup> BTU/hr.): Rated 62 Max. 69 Normal 50 Plant load 22,500#/HR. STEAM  
 6. Percent used for: % space heat 5 % process 95 % power 0  
 7. Normal operating schedule: hrs./day 20-24 days/yr. 344  
 8. Types of fuel fired: ☐ Coal ☒ Oil ☒ Natural gas ☐ Wood ☐ LPG ☐ Other, specify \_\_\_\_\_  
 9. Heat release \_\_\_\_\_ BTU/ft<sup>3</sup> Type of combustion control COEN AUTOMATIC CONTROLS  
 10. Type of draft: ☐ Natural ☐ Induced ☒ Forced Overfire air jets: ☐ Yes ☒ No  
 11. Combustion monitoring: ☒ Fuel/air ratio ☒ O<sub>2</sub> ☐ Smoke ☒ Other, specify CARBON DIOXIDE CONTENT

## COAL FIRED UNITS

12. Firing capacities (lbs./hr.): Rated \_\_\_\_\_ Max. \_\_\_\_\_ Normal \_\_\_\_\_  
 13. Type of firing: ☐ Hand-fired ☐ Underfeed stoker ☐ Traveling grate ☐ Chain grate ☐ Spreader stoker  
☐ Pulverized-dry bottom ☐ Pulverized-wet bottom ☐ Cyclones  
☐ Other, specify \_\_\_\_\_  
 14. Ash reinjection: ☐ yes ☐ no  
 15. Firing equipment mfr. \_\_\_\_\_ Make or model no. \_\_\_\_\_  
 16. Grate dimensions \_\_\_\_\_ Ash discharging: ☐ Manual ☐ Continuous

## OIL FIRED UNITS

17. Atomization: ☐ Oil pressure ☒ Steam pressure ☐ Compressed air ☐ Rotary cup  
☐ Other, specify \_\_\_\_\_  
 18. Burner Mfr. COEN Model no. #2 MV No. of burners ONE  
 19. Firing capacities (gal./hr.): Rated 430 Max. 475 Normal 345  
 20. Type of firing: ☐ Vertical ☒ Horizontal ☐ Tangential ☐ Opposed  
 21. Oil preheaters: ☐ Yes Temp. \_\_\_\_\_ °F. ☒ No

## FUEL DATA

22. Complete the following table for each type of fuel\*

Type of Fuel	Heat Cont. BTU Unit	Percent		Quantity of Fuel Used			Percent Annual Use			
		Ash	Sulfur	Per Year	Norm. Hr.	Max. Hr.	Spring	Summer	Fall	Winter
Coal										
Oil	140,000/GAL.	NIL	0.23	45,000 GAL.	345 GAL.	475 GAL.	10	10	10	70
Gas	1000/SCF	NIL	0.00001	211.5MM SCF	50,000 SCF	69,000	27	27	19	27
Wood										
LPG										
Other										

\*Report fuel analysis on an as-received basis. Use weighted annual averages.

Provide provisions for combustion or tempered make-up air: \_\_\_\_\_

**Important Notes:** If emissions from this source have been determined by source tests, material balances or emission factors, include such data and supporting calculations with application.

## DATA SHEET

## STACKS AND OTHER EGRESS POINTS

Rev. 10/8/73

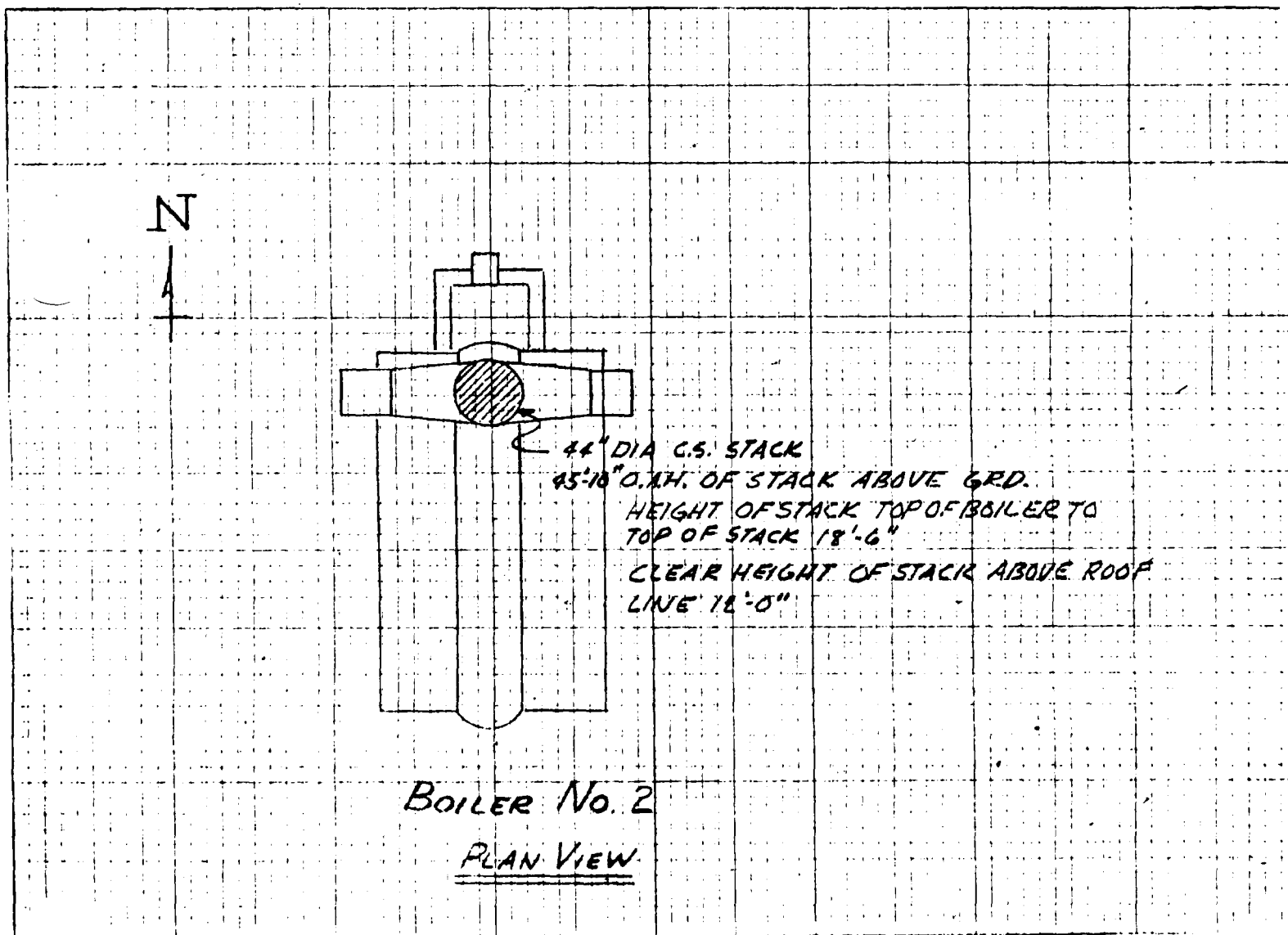
No. 2 Boiler

Page 2 of 2.

Sherwin-Williams Chemicals Div.

1. City Name Ashtabula Plant Person to Contact T. C. GillenCity Address 2900 Middle Road Mailing Address P. O. Box 310  
Street StreetAshtabula Township Ashtabula 44004 Ashtabula Ohio 44004  
City, Village or Township County Zip City State ZipTelephone 216 998-1225  
Area Code Number2. Type: ☒ Round ☐ Rectangular - top inside dimension(s) (L & W or Diam.) 44"Ø x 18'6"3. Height: Above roof 12'0" ft. Above ground 45'10" ft.4. Exit gas: Temp. 450 °F. Volume 19,000 ACFM Velocity 1800 feet per minute5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_Manufacturer Union Iron Works Make or model MH Pollutant Normal Combustion Product:

6. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



Im, at Note: If emissions from the above stack have been determined by performance testing or other means, include such data and supporting calculations with this data sheet.

FOR OFFICIAL USE ONLY

Premise No. \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Source No. \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

## APPLICATION FOR PERMIT

Rev. 10/8/73

Page 1 of 2

Tank

## STORAGE TANKS

Sherwin-Williams Chemicals Div.

Facility Name Ashtabula Plant Person to Contact T. C. GillenCity Address 2900 Middle Road Mailing Address P. O. Box 310

Street

Street

City, Village or Township Ashtabula Township County Ashtabula Zip 44004 City Ashtabula State Ohio Zip 44004Telephone 216 Area Code 998-1825 Number

2. This Application is submitted for:

☒ Permit to operate an existing source☐ Permit to construct a new source or modify an existing source☐ Variance from regulation(s) \_\_\_\_\_ for \_\_\_\_\_ months

3. Check-list of information to accompany this application:

☐ Plans and drawings☐ Process flow diagram☐ Construction schedule☐ Emission tests or calculations☐ Compliance time schedule☐ Additional information4. Tank identification: Name or number Fuel Oil Storage Tank Year installed 19705. Material stored in tank: Trade name (Attach composition) Fuel Oil Grade #2Producer Standard Oil Company Density \_\_\_\_\_ lbs/gal or 31.7-33.7 APIIf material stored in tank is **not** photochemically reactive do not complete the remaining questions.

6. Tank capacity: \_\_\_\_\_ (Indicate units)

7. Tank shape: ☐ Spherical ☐ Cylindrical ☐ Rectangular ☐ Other, specify \_\_\_\_\_

8. Tank dimensions: Diameter \_\_\_\_\_ Height \_\_\_\_\_ Length \_\_\_\_\_ Width \_\_\_\_\_

9. Tank material of construction: ☐ Steel ☐ Wood ☐ Other, specify \_\_\_\_\_10. Tank paint: ☐ Chalking white ☐ Lt. grey/blue ☐ Aluminum ☐ Dark color ☐ Other, specify \_\_\_\_\_

11. Type of tank: (Check all applicable)

☐ Fixed roof☐ Floating roof☐ Pressure☐ Variable vapor space☐ Open top☐ Heated☐ Insulated☐ Underground☐ Other, specify \_\_\_\_\_

If the tank has floating roof, complete the following:

Type of roof:

☐ Double deck☐ Pontoon☐ Other, specify \_\_\_\_\_

Type of seal:

☐ Single☐ Double☐ Other, specify \_\_\_\_\_

Type of shell construction:

☐ Riveted☐ Welded☐ Other, specify \_\_\_\_\_

13. If other type of roof or cover, describe \_\_\_\_\_

14. Maximum filling rate: gal/min. \_\_\_\_\_

15. Type of filling: ☐ Splash ☐ Submerged

16. Filling schedule: gal/day \_\_\_\_\_

17. Average outage: Feet \_\_\_\_\_ Tank throughput: gal/yr. \_\_\_\_\_

18. Temperature of stored materials: Minimum \_\_\_\_\_ °F Maximum \_\_\_\_\_ °F

19. Vapor pressure of stored materials: \_\_\_\_\_ psia @ \_\_\_\_\_ °F

20. Vent valve data:

Type	Number	Pressure of Vent Setting	Vacuum Setting	Discharging to:		
				Atmosphere	Vapor Control	Flare
Combination						
Pressure						
Vacuum						
Open						

21. Check types of vapor control (if applicable): ☐ Adsorber ☐ Absorber ☐ Compression ☐ Cooling

Loading facilities for Tank-Truck, Trailer or Railroad car

22. Maximum capacity of facility: gallons per day \_\_\_\_\_

23. Vapor loss during loading discharged to: ☐ Atmosphere ☐ Fuel Gas system ☐ Vapor recovery system

Efficiency of Recovery System \_\_\_\_\_

**Important Note:** If emissions from this source have been determined by source tests, material balances or emission factors, include such data and supporting calculations with application.

FOR OFFICIAL USE ONLY

Premise No. \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Source No. \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

DATA SHEET  
STACKS AND OTHER EGRESS POINTS

Sherwin-Williams Chemicals Div.

City Name Ashtabula Plant Person to Contact T. C. Gillen

City Address 2900 Middle Road Mailing Address P. O. Box 310  
Street Street

Ashtabula Township Ashtabula 44004 Ashtabula Ohio 44004  
City, Village or Township County Zip City State Zip

Telephone 216 998-1825  
Area Code Number

2. Type: ☒ Round ☐ Rectangular - top inside dimension(s) (L & W or Diam.) 6" diameter Goose-neck Vent

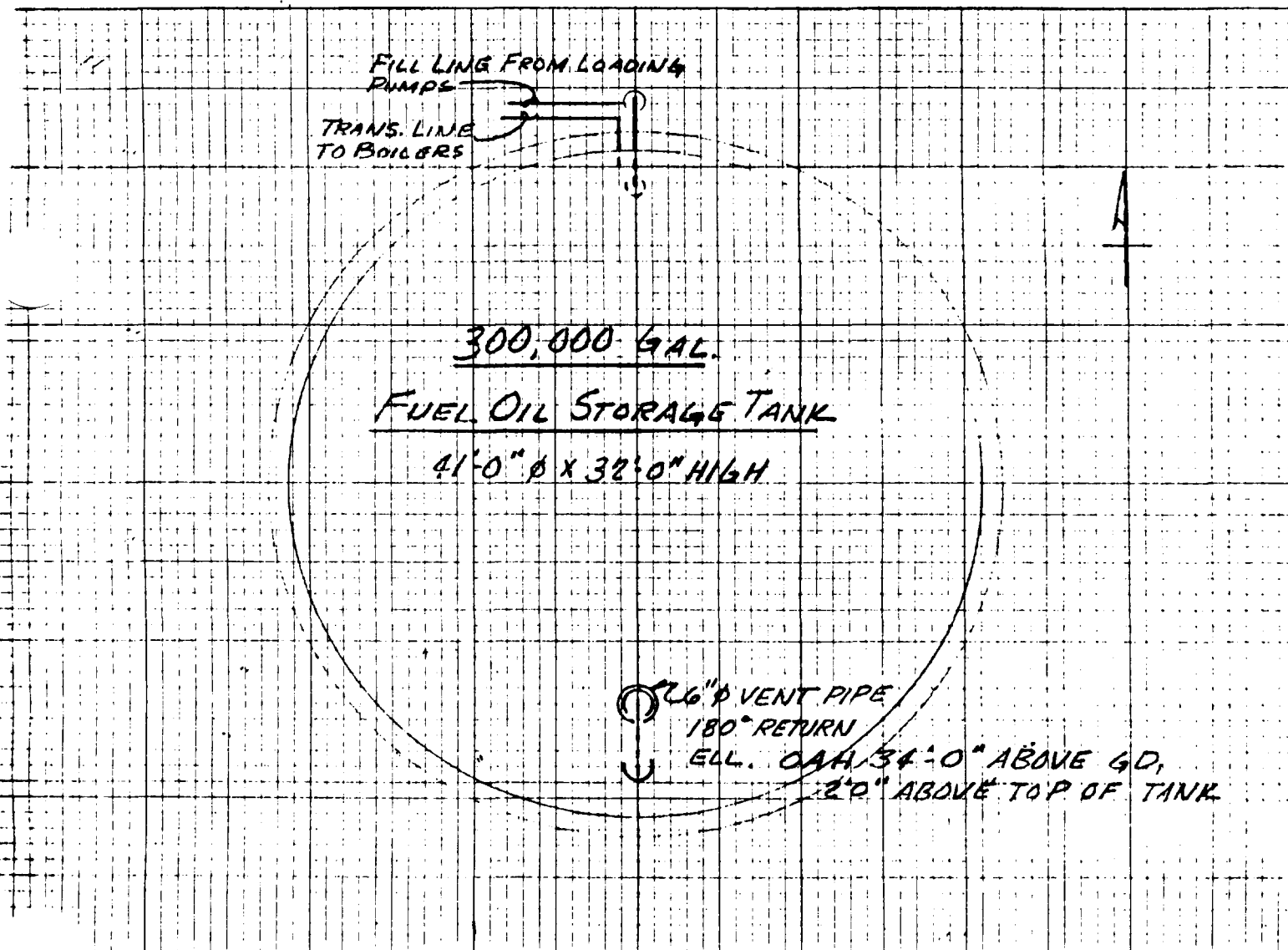
3. Height: Above roof 2 ft. Above ground 34 ft.

Exit gas: Temp. Ambient Volume Unknown ACFM Velocity Unknown feet per minute

Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_

Manufacturer Chicago Bridge and Steel Make or model None Pollutant #2 Fuel Oil Vapors

Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



Imp. Note: If emissions from the above stack have been determined by performance testing or other means, include such data and supporting calculations with this data sheet.

NATURAL GAS ANALYSIS

	<u>% By Volume</u>
Methane	95.17
Ethane	2.83
Carbon Dioxide	0.68
Propane	0.50
Iso-Butane	0.08
Normal Butane	0.08
Iso-Pentane	0.03
Normal Pentane	0.02
Hexanes	0.05
Nitrogen	0.44
Helium	0.12
	<hr/>
	100.00 %

HEAT - TYPICAL INSPECTION

<u>Quality</u>	<u>Typical Value</u>		<u>Test Method</u>
	<u>Toledo Refinery</u>	<u>Lima Refinery</u>	
API Gravity	31.7	33.7	D 287
Distillation	<sup>°F</sup>	<sup>°F</sup>	D 86
IBP	358	393	
10%	422	439	
50%	498	495	
90%	584	558	
EP	625	594	
B S & W	Nil	Nil	D 1796
Pour, °F.	-15	-13	D 97
Cloud, °F.	0	-10	D 2500
Flash, FM, °F.	152	162	D 56
Visc. @ 100°F., SSU	34	34.5	D 88
Color	0.8	1.3	D 156, D 1500
Total Sulfur, %	0.37	0.23	D 1552, STM 179
Merap Sulfur, %	0.003	0.0011	STM 7, STM 11
Corrosion 3 Hrs. @ 212°F.	1 A	1 A	D 130
Carbon Residue, 10% Bims, %	0.10	0.196	D 524
Btu/gal. (Gross)	146,560	139,440	D 1405, STM 132
Ash %	Nil	Nil	D 482

# PERMIT APPLICATION INCINERATOR

Rev. 10/8/73

Page 1 of 3

Sherwin-Williams Chemicals Div.

1. Facility Name Ashtabula PlantPerson to Contact T. C. Gillen
 Facility Address 2900 Middle Road  
 Street

 Mailing Address P. O. Box 310  
 Street

Ashtabula Township Ashtabula 44004 Ashtabula Ohio 44004  
 City, Village or Township County Zip City State Zip

 Telephone 216 998-1825  
 Area Code Number

2. This application is submitted for:

- ☒ Permit to operate an existing source  
☐ Permit to construct a new source or modify an existing source  
☐ Variance from regulation(s) \_\_\_\_\_ for \_\_\_\_\_ months

3. Check-list of information to accompany this application:

- ☐ Plans and drawings ☐ Emission tests or calculations ☐ Process flow diagram  
☐ Compliance time schedule ☐ Construction schedule ☐ Additional information

4. Source of combustible waste:

- ☐ Hospital, number of beds \_\_\_\_\_  
☐ Apartment, number of units \_\_\_\_\_  
☐ Institution, number of rooms \_\_\_\_\_  
☐ Industrial process, describe \_\_\_\_\_  
☒ Other, describe Office Wastepaper - confidential documents

5. Incinerator located: ☒ Indoors ☐ Outdoors ☐ Charged indoors, unit outdoors6. Manufacturer Sargent, Inc. Make or model H 9 G7. Rated capacity 99 lb./hr. Year installed 1969 Your identification Office Incinerator8. Type of incinerator ☐ Single chamber ☒ Multiple chamber9. Method of charging waste: ☐ Chute fed ☐ Flue fed ☒ Direct fed ☐ Other. If other, describe: \_\_\_\_\_10. Type of draft: ☐ Forced ☒ Induced ☐ Natural ☐ Starved air ☐ Overfire air jets, capacities \_\_\_\_\_

11. If liquid incinerator, type of atomization \_\_\_\_\_

Type of flue damper: ☐ Barometric ☒ Butterfly ☐ Guillotine ☐ Sliding ☐ NoneAdjustable air ports: ☒ Yes ☐ No12. Burner input (BTU/hr.): Primary 150,000 Secondary \_\_\_\_\_13. Secondary burner ignition: ☐ Manual (timer) ☐ Automatic (charging door switch)14. Secondary burner temperature control: ☐ Yes Lower limit \_\_\_\_\_°F ☒ No15. Type of refractory: ☐ Firebrick ☒ Castable Pyrometric cone equivalence \_\_\_\_\_16. Primary chamber dimensions (inches) Length 2'9" Width 2'4" Height 2'6"17. Secondary chamber dimensions (inches) Length \_\_\_\_\_ Width \_\_\_\_\_ Height 22'4"X10"Ø stack18. Describe provisions for combustion or tempered make-up air none

## OPERATING SCHEDULE AND AMOUNT OF WASTE INCINERATED

21. Normal operating schedule: hrs./day 2 days/wk. 5 wks/yr. 5222. Percent annual incineration by season: Winter 25% Spring 25% Summer 25% Fall 25%23. Quantity of waste burned (lbs./hr): Average 2.5 Maximum 1524. Type of waste (see instructions) paper Heat content of waste 8500 BTU/lb.25. Type of fuels used: ☒ Natural gas ☐ Oil ☐ LP gas ☐ None26. Amount of fuel used per year 78,000 cu. ft. Burner manufacturer/model Eclipse Fuel Engineering Co27. Type of charging: ☐ Continuous ☐ Intermittent ☒ Batch Rockford, Ill. DaS-328. Percent projected annual increase in incineration 0

**Important Notes:** If emissions from this source have been determined by source tests, material balances or emission factors, include such data and supporting calculations with application.

A waste analysis **must** accompany all incinerator permit applications.

A detailed drawing of the incinerator showing all dimensions (inside and out) **must** accompany this application. Indicate position of charging doors, burners and any auxiliary equipment.

## DATA SHEET

## STACKS AND OTHER EGRESS POINTS

Rev. 10/8/73

Page 2 of 3

Incinerator

Sherwin-Williams Chemicals Div.

City Name Ashtabula Plant Person to Contact T. C. GillenCity Address 2900 Middle Road Mailing Address P. O. Box 310

Street

Street

Ashtabula Township Ashtabula 44004 Ashtabula Ohio 44004

City, Village or Township

County

Zip

City

State

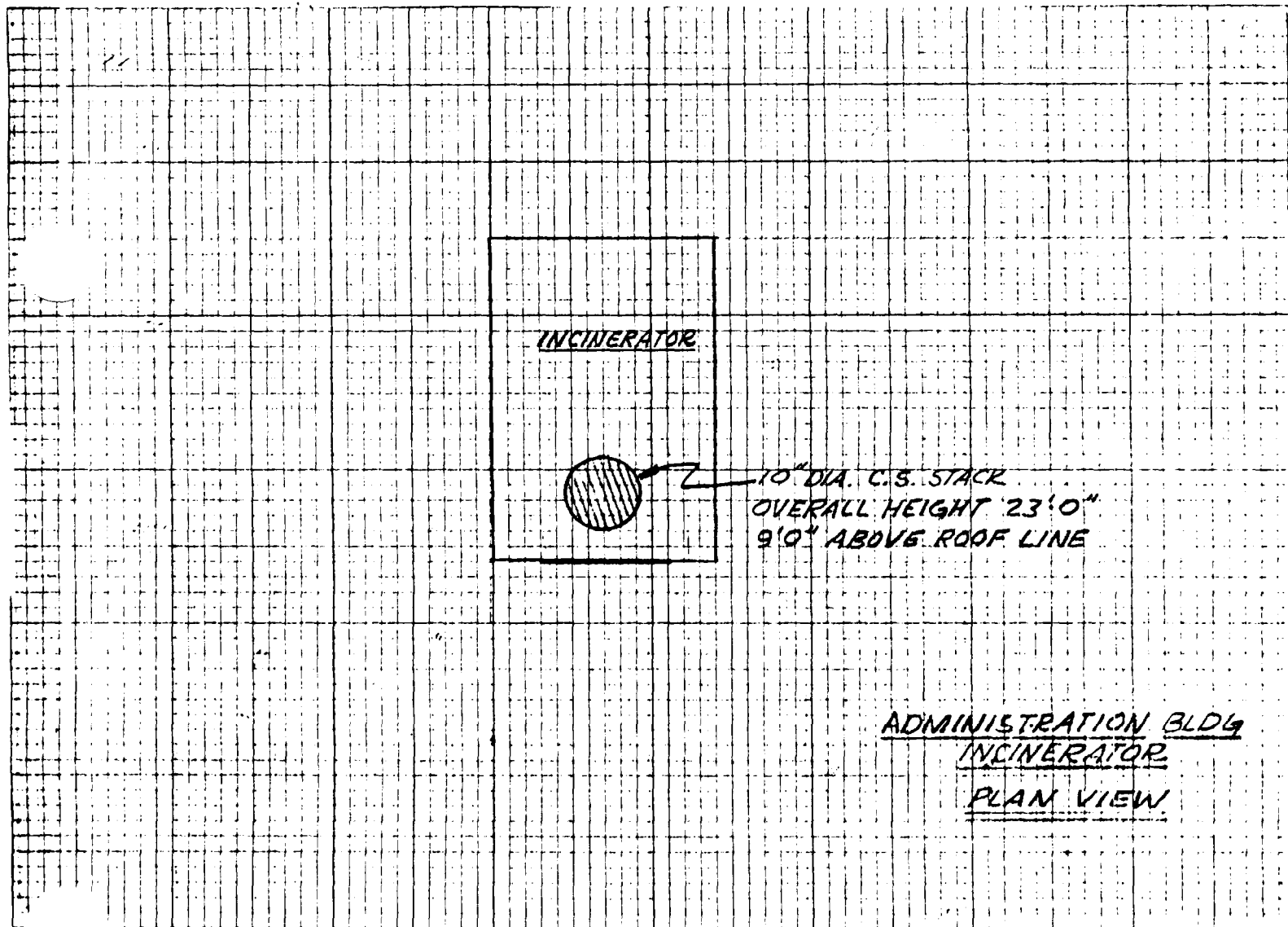
Zip

Telephone 216 998-1825

Area Code

Number

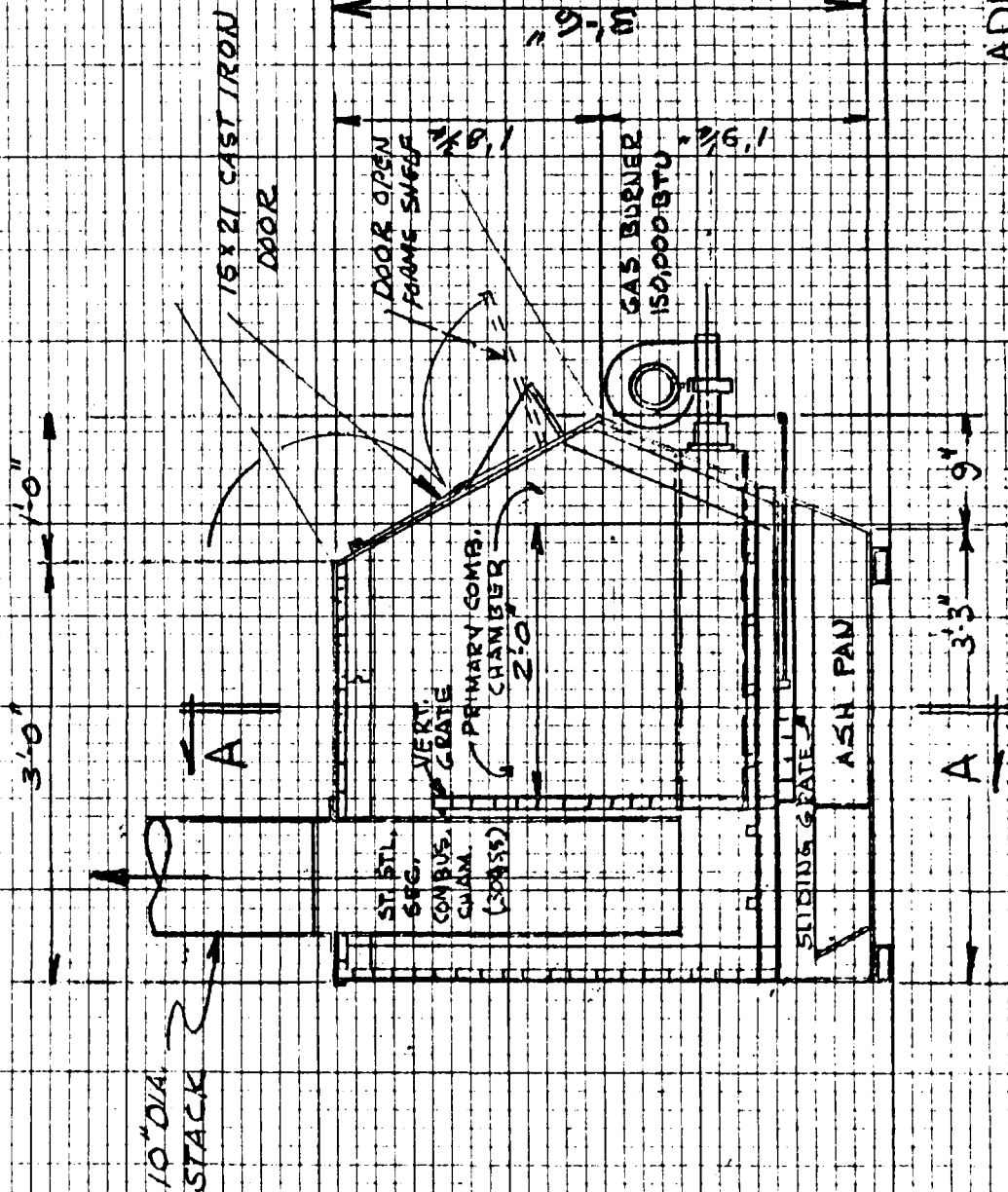
2. Type: ☒ Round ☐ Rectangular - top inside dimension(s) (L & W or Diam.) 10" x 20"
3. Height: Above roof 9 ft. Above ground 23 ft.
4. Exit gas: Temp. - °F. Volume - ACFM Velocity - feet per minute
5. Continuous monitoring equipment: ☐ Yes ☒ No. If yes, indicate: Type \_\_\_\_\_
- Manufacturer Sargent Company Make or model - Pollutant Normal Combustion Products
3. Draw a flow diagram in plan view of the source equipment, control equipment and stacks. If more than one source or control device discharges into this stack show all connections.



Imp. Note: If emissions from the above stack have been determined by performance testing or other means, include such data and supporting calculations with this data sheet.

SCALE 10 PER INCH

MADE IN U.S.A.



ADMIN. BLDG.  
INCINERATOR

8-31-72

SECTION VIEW

DRW. CB

FEB 09 1974

RECEIVED

FEB 11 1974

THE SHERWIN-WILLIAMS CO.  
T. C. GILLEN

0204010200 001  
SHERWIN WILLIAMS CHEM CO ASHTABULA OH  
T.C. GILLEN  
PO BOX 310  
ASHTABULA

**CERTIFIED MAIL**  
**OhioEPA**

John J. Gilligan  
Governor  
Dr. Ira L. Whitman  
Director

Dear

Enclosed are Permit(s) to Operate which allow you to operate the described air contaminant source(s) in the manner indicated in the permit(s). Because these permit(s) contain several conditions and restrictions, I urge you to read them carefully.

Under Ohio Revised Code, Section 3704.04, 119.06, and 119.07, these order(s) will take effect on the date indicated unless you request an adjudication hearing within thirty (30) days of the date of issuance, as provided by Ohio Environmental Protection Agency Regulation EP-40-13. At an adjudication hearing you may appear in person, or be represented by your attorney, or by such other representative as is permitted to practice before this Agency, or you may present your position, arguments, or contentions in writing. At the hearing you may present evidence and examine witnesses appearing for and against you. Requests for hearings shall be in writing and shall specify the issues of fact and law to be contested. Requests for hearings shall be sent to the Hearing Clerk, Box 1049, 361 E. Broad, Columbus, Ohio.

The Agency may withdraw these permit(s) at any time before these permit(s) take effect.

If you have any questions, please contact the air pollution control agency to whom you submitted your application.

Sincerely,



Ira L. Whitman  
Director

HL  
ACT  
CWB  
CHC  
FT  
HGG  
JTL

AP-PS-205  
10/31/73

RECEIVED

FEB 11 1974

SHERWIN WILLIAMS CO.  
7, 8, MILLER**Permit to Operate an Air Contaminant Source  
Terms and Conditions**Date of Issuance 02/09/74Effective Date 03/09/74Application No. 02040102002001This document constitutes issuance to: SHERWIN WILLIAMS CHEM DIV ASHTABULA PLT  
2900 MIDDLE ROAD  
ASHTABULA OH 44004

of a permit to operate:

CHEM. PROCESS EQUIP. (SHERWIN WILLIAMS DESIGN);  
TIDOX(R) OPERATION-TICL4 PROCESS (P-1).

The following terms and conditions are hereby expressly incorporated into this permit to operate:

## Condition No. 1

A permit fee in the amount of \$ 110 is remitted within fifteen (15) days of the effective date of this permit to operate.

## Condition No. 2

This permit to operate shall be effective until 03/09/77. Unless the Director is notified to the contrary, this permit will be automatically considered for renewal on the basis of the original application sixty (60) days before this expiration date.Condition No. 3 (This condition is applicable if checked: ☐)

Upon declaration of an Air Pollution Alert, Warning or Emergency Episode this air contaminant source will follow those emission reduction procedures enumerated in the Emergency Action Plan approved by the Director for this source.

## Condition No. 4

The above-described air contaminant source is operating, and over the period covered by the permit will be operated, in full compliance with all applicable State and Federal air pollution laws and regulations.

## Condition No. 5

Prior to any physical change in, or change in the method of operation of, this air contaminant source which increases the amount of any air pollutant emitted or results in the emission of any air pollutant not previously emitted (Section: AP-9-01(b)(2)) a Permit to Construct or Modify must be granted by the Ohio Environmental Protection Agency.

## Condition No. 6

The Director of the Ohio Environmental Protection Agency, or his authorized representative, may enter upon the premises of the source operation at any reasonable time and subject to safety requirements of the person in control of the premises for the purpose of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants and determining compliance with all applicable State and Federal air pollution laws and regulations and the terms and conditions of this permit.

Condition No. 7

The Director must be notified in writing prior to any transfer of a permit to operate. Such transfer shall not take place without the written permission of the Director.

Condition No. 8

This Permit to Operate shall be subject to revocation for any of the reasons specified in Regulation AP-9-03(f).

Condition No. 9 (This condition is applicable if checked: ☐ )

This permit is subject to the supplementary condition(s) attached.

OHIO ENVIRONMENTAL PROTECTION AGENCY

*Ira L. Whitman*

Ira L. Whitman, Ph.D.

Director

450 East Town Street  
Box 1049  
Columbus, Ohio 43216

RECEIVED

FEB 11 1974

MR. SHERWIN WILLIAMS CO.  
25 S. BROAD

## Permit to Operate an Air Contaminant Source Terms and Conditions

Date of Issuance 02/09/74

Effective Date 03/09/74

Application No. 0204010200P002

This document constitutes issuance to: SHERWIN WILLIAMS CHEM DIV ASHTABULA PLT  
2900 MIDDLE ROAD  
ASHTABULA OHIO 44004

of a permit to operate:

CHEM. PROCESS EQUIP (SHERWIN WILLIAMS DESIGN);  
TIDOX(R) OPERATION - TIO2 PROCESS (P-2).

The following terms and conditions are hereby expressly incorporated into this permit to operate:

Condition No. 1

A permit fee in the amount of \$ 110 is remitted within fifteen (15) days of the effective date of this permit to operate.

Condition No. 2

This permit to operate shall be effective until 03/09/77. Unless the Director is notified to the contrary, this permit will be automatically considered for renewal on the basis of the original application sixty (60) days before this expiration date.

Condition No. 3 (This condition is applicable if checked: ☐)

Upon declaration of an Air Pollution Alert, Warning or Emergency Episode this air contaminant source will follow those emission reduction procedures enumerated in the Emergency Action Plan approved by the Director for this source.

Condition No. 4

The above-described air contaminant source is operating, and over the period covered by the permit will be operated, in full compliance with all applicable State and Federal air pollution laws and regulations.

Condition No. 5

Prior to any physical change in, or change in the method of operation of, this air contaminant source which increases the amount of any air pollutant emitted or results in the emission of any air pollutant not previously emitted (Section: AP-9-01(b)(2)) a Permit to Construct or Modify must be granted by the Ohio Environmental Protection Agency.

Condition No. 6

The Director of the Ohio Environmental Protection Agency, or his authorized representative, may enter upon the premises of the source operation at any reasonable time and subject to safety requirements of the person in control of the premises for the purpose of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants and determining compliance with all applicable State and Federal air pollution laws and regulations and the terms and conditions of this permit.

---

Condition No. 7

The Director must be notified in writing prior to any transfer of a permit to operate. Such transfer shall not take place without the written permission of the Director.

Condition No. 8

This Permit to Operate shall be subject to revocation for any of the reasons specified in Regulation AP-9-03(f).

Condition No. 9 (This condition is applicable if checked: ☐ )

This permit is subject to the supplementary condition(s) attached.

OHIO ENVIRONMENTAL PROTECTION AGENCY



Ira L. Whitman, Ph.D.  
Director

450 East Town Street  
Box 1049  
Columbus, Ohio 43216

RECEIVED

11 1974

THE SHERWIN-WILLIAMS CO.  
T. C. GILLEN

## Permit to Operate an Air Contaminant Source Terms and Conditions

Date of Issuance 02/09/74

Effective Date 03/09/74

Application No. 02040102900001

This document constitutes issuance to: SHERWIN WILLIAMS CHEM DIV ASTARUL & PLT  
2900 MIDDLE ROAD  
ASTARULATAP OHIO 44004

of a permit to operate:

RILEY-STOKES CORP. MODEL MN. 69 MMSTUHR;  
NO. 1 HOTLER, GAS & NO 2 OIL.

The following terms and conditions are hereby expressly incorporated into this permit to operate:

### Condition No. 1

A permit fee in the amount of \$ 35 is remitted within fifteen (15) days of the effective date of this permit to operate.

### Condition No. 2

This permit to operate shall be effective until 03/09/77. Unless the Director is notified to the contrary, this permit will be automatically considered for renewal on the basis of the original application sixty (60) days before this expiration date.

### Condition No. 3 (This condition is applicable if checked: ☐ )

Upon declaration of an Air Pollution Alert, Warning or Emergency Episode this air contaminant source will follow those emission reduction procedures enumerated in the Emergency Action Plan approved by the Director for this source.

### Condition No. 4

The above-described air contaminant source is operating, and over the period covered by the permit will be operated, in full compliance with all applicable State and Federal air pollution laws and regulations.

### Condition No. 5

Prior to any physical change in, or change in the method of operation of, this air contaminant source which increases the amount of any air pollutant emitted or results in the emission of any air pollutant not previously emitted (Section: AP-9-01(b)(2)) a Permit to Construct or Modify must be granted by the Ohio Environmental Protection Agency.

### Condition No. 6

The Director of the Ohio Environmental Protection Agency, or his authorized representative, may enter upon the premises of the source operation at any reasonable time and subject to safety requirements of the person in control of the premises for the purpose of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants and determining compliance with all applicable State and Federal air pollution laws and regulations and the terms and conditions of this permit.

Condition No. 7

The Director must be notified in writing prior to any transfer of a permit to operate. Such transfer shall not take place without the written permission of the Director.

Condition No. 8

This Permit to Operate shall be subject to revocation for any of the reasons specified in Regulation AP-9-03(f).

Condition No. 9 (This condition is applicable if checked: ☐)

This permit is subject to the supplementary condition(s) attached.

OHIO ENVIRONMENTAL PROTECTION AGENCY



Ira L. Whitman, Ph.D.  
Director

450 East Town Street  
Box 1049  
Columbus, Ohio 43216

RECEIVED

JUN 11 1974

THE SHERWIN-WILLIAMS CO.  
T. G. GILLIGAN

## Permit to Operate an Air Contaminant Source Terms and Conditions

Date of Issuance 02/09/74Effective Date 03/09/74Application No. 22040102001002

This document constitutes issuance to: SHERWIN WILLIAMS CHEM DIV ASHTABULA PLT.  
2900 MIDDLE ROAD  
ASHTABULA OH 44004

of a permit to operate:

RILEY-STOKES CORP. MODEL MM. 69 MMSTUHR1  
NO. 2 BOILER, GAS & NO. 2 OIL.

The following terms and conditions are hereby expressly incorporated into this permit to operate:

**Condition No. 1**

A permit fee in the amount of \$ 35 is remitted within fifteen (15) days of the effective date of this permit to operate.

**Condition No. 2**

This permit to operate shall be effective until 03/09/77. Unless the Director is notified to the contrary, this permit will be automatically considered for renewal on the basis of the original application sixty (60) days before this expiration date.

**Condition No. 3 (This condition is applicable if checked: ☐ )**

Upon declaration of an Air Pollution Alert, Warning or Emergency Episode this air contaminant source will follow those emission reduction procedures enumerated in the Emergency Action Plan approved by the Director for this source.

**Condition No. 4**

The above-described air contaminant source is operating, and over the period covered by the permit will be operated, in full compliance with all applicable State and Federal air pollution laws and regulations.

**Condition No. 5**

Prior to any physical change in, or change in the method of operation of, this air contaminant source which increases the amount of any air pollutant emitted or results in the emission of any air pollutant not previously emitted (Section: AP-9-01(b)(2)) a Permit to Construct or Modify must be granted by the Ohio Environmental Protection Agency.

**Condition No. 6**

The Director of the Ohio Environmental Protection Agency, or his authorized representative, may enter upon the premises of the source operation at any reasonable time and, subject to safety requirements of the person in control of the premises for the purpose of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants and determining compliance with all applicable State and Federal air pollution laws and regulations and the terms and conditions of this permit.

Condition No. 7

The Director must be notified in writing prior to any transfer of a permit to operate. Such transfer shall not take place without the written permission of the Director.

Condition No. 8

This Permit to Operate shall be subject to revocation for any of the reasons specified in Regulation AP-9-03(f).

Condition No. 9 (This condition is applicable if checked: ☐ )

This permit is subject to the supplementary condition(s) attached.

OHIO ENVIRONMENTAL PROTECTION AGENCY



Ira L. Whitman, Ph.D.  
Director

450 East Town Street  
Box 1049  
Columbus, Ohio 43216

0204010200B001  
APPLICATION  
NUMBER

SHERWIN WILLIAMS CHEM DIV ASHTABULA  
FACILITY  
NAME

1A 35  
AMOUNT  
DUE

STATEMENT OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY

- THIS PERMIT FEE IS DUE WITHIN FIFTEEN (15) DAYS OF THE EFFECTIVE DATE OF THIS PERMIT.
- FAILURE TO REMIT THE FULL AMOUNT DUE WILL RESULT IN REVOCATION OF THIS PERMIT AND AN ORDER TO CEASE ALL EMISSIONS.
- MAKE CHECKS PAYABLE TO THE TREASURER OF THE STATE OF OHIO.
- RETURN THIS STATEMENT WITH YOUR REMITTANCE USING THE ENCLOSED ENVELOPE.
- ALL QUESTIONS REGARDING THIS FEE SHOULD INCLUDE THE APPLICATION NUMBER SHOWN ABOVE.

0204010200B002  
APPLICATION  
NUMBER

SHERWIN WILLIAMS CHEM DIV ASHTABULA  
FACILITY  
NAME

1A 35  
AMOUNT  
DUE

STATEMENT OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY

- THIS PERMIT FEE IS DUE WITHIN FIFTEEN (15) DAYS OF THE EFFECTIVE DATE OF THIS PERMIT.
- FAILURE TO REMIT THE FULL AMOUNT DUE WILL RESULT IN REVOCATION OF THIS PERMIT AND AN ORDER TO CEASE ALL EMISSIONS.
- MAKE CHECKS PAYABLE TO THE TREASURER OF THE STATE OF OHIO.
- RETURN THIS STATEMENT WITH YOUR REMITTANCE USING THE ENCLOSED ENVELOPE.
- ALL QUESTIONS REGARDING THIS FEE SHOULD INCLUDE THE APPLICATION NUMBER SHOWN ABOVE.

UNDER REGULATION EP-39-05 OF THE OHIO ENVIRONMENTAL  
PROTECTION AGENCY, NO FEE MAY BE CHARGED:

-THE STATE OR ANY POLITICAL SUBDIVISION THEREOF, INCLUDING  
EDUCATIONAL OR MEDICAL FACILITIES OWNED BY THE STATE OR A  
POLITICAL SUBDIVISION.

-ANY PERSON EXEMPTED FROM TAXATION BY SECTION 5709.07 OR  
SECTION 5709.12 OF THE OHIO REVISED CODE.

IF YOU QUALIFY FOR A PERMIT FEE EXEMPTION UNDER REGULATION  
EP-39-05 AS STATED ABOVE, RETURN THIS STATEMENT WITH WRITTEN  
ATTESTATION OF SUCH EXEMPTION, USING THE ENCLOSED ENVELOPE.

IMPORTANT NOTE

The first two digits of the application number\* indicated on all permits,  
variances, and denials issued by Ohio EPA may have been changed without  
notification to you the source owner. These first two digits are for  
internal use only. All applications can be uniquely identified by the  
remaining 12 characters. In all communications regarding your applications,  
please refer to the most recently used application number.

\*The application number consists first of a ten digit premise number, which  
identifies the facility or plant location, and a four character source number,  
which identifies the source operation within the facility.

Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_ Zip \_\_\_\_\_

**AIR PERMIT SECTION**

**OHIO ENVIRONMENTAL PROTECTION AGENCY**

**P. O. BOX 1225**

**COLUMBUS, OHIO 43216**

Water Pollution Control Facility

Ashtabula, Ohio

TITANIUM DIOXIDE MANUFACTURING PROCESS

The Sherwin-Williams Company's Ashtabula, Ohio Titanium Dioxide manufacturing plant produces pigmentary grades of titanium dioxide ( $\text{TiO}_2$ ) primarily applicable for use in paint products. The process of manufacture involved is chemical in nature, utilizing the "chloride" route, i.e., converting the input raw material (a high  $\text{TiO}_2$  content naturally occurring ore) to titanium tetrachloride ( $\text{TiCl}_4$ ) as an intermediate by reaction with chlorine. Processing of the titanium tetrachloride ( $\text{TiCl}_4$ ) and subsequent controlled reaction of the  $\text{TiCl}_4$  with oxygen, results in producing a basic  $\text{TiO}_2$  pigment of required purity and characteristics. In the reaction (oxidation) converting of the  $\text{TiCl}_4$  to  $\text{TiO}_2$ , the chlorine liberated is recovered and recycled for re-use in the  $\text{TiCl}_4$  manufacture reaction.

Subsequent processing of the initially produced  $\text{TiO}_2$  pigment is carried out as required to produce a finished pigment of specified characteristics.

The process is carried out in identified areas as to function, essentially physically separated, involving a number of process building structures both closed and open framed and typically of multi-story level. In addition, required support facilities such as utilities (steam production, water treatment, electrical, gas and water distribution), administrative, laboratory, maintenance shops, and storage of materials are provided as part of the plant. Facilities are provided in the plant identifiable as to providing for the abatement of air and water pollution.

Waste water pollution abatement facilities are outlined as follows:

1.  $\text{TiCl}_4$  Process: Waste solids suspended in acidic liquid wastes are concentrated and collected in the sludge system

and disposed of off plant by a private contractor to an approved disposal site. Process waste water discharges are directed to the plant waste water system.

2. TiO<sub>2</sub> Process: Solids bearing spent process waste water is treated in a settling tank, essentially all of the solids separated out and the overflow containing remaining solids directed to the plant waste water system. Process cooling waste water is also directed to the plant waste water system.
3. Services: Discharges from the laboratories and area building drains are directed to the plant waste water system wherever water pollution contributive factors might be involved.
4. Plant Waste Water System: The above indicated inputs are directed to the system. Initial control and treatment consists of pH adjustment of the waste stream, followed by holdup in settling ponds for conditioning and solids separation. Discharge from the ponds, as spent water, is treated for final pH adjustment.

The Sherwin-Williams Company

Ashtabula Titanium Dioxide

Water Pollution Control Facility

Ashtabula, Ohio

Page 1 of 2

<u>Item 2</u>	<u>Equipment</u>	<u>Equipment</u>	<u>Amount</u> <u>Component</u> <u>Parts</u>	<u>Materials</u> <u>1)</u>	<u>Total</u>
Sludge Truck Pad				\$ 920.	\$ 920.
Sewers, Trenches, Piping, Covers		\$ 45,233.		6,722.	51,955.
Apportionment of Reaction and Purification Building Structure, Plumbing, Lighting and Fixtures		32,855.		4,015.	36,870.
2 Sludge Tanks		46,350.	\$ 39,374.	11,721.	97,445.
2 Pumps Centrifugal		5,590.	8,412.	738.	14,740.
2 Sludge Tank Agitators		4,900.	10,180.	320.	15,400.
2 Reducers and Motors, 60 H.P.		6,120.	10,486.	684.	17,290.
3 Motors, 25 H.P. and Frames		2,040.	1,455.	45.	3,540.
Process Piping				11,485.	11,485.
Sludging Ponds, Retention Basins, Trenches, Gates, Valves, Heaters, Chemical Field House, Grating.		178,380.	20,709.	29,271.	228,360.
Area Lighting and Power Wiring		2,565.	1,435.		4,000.
Instruments, Piping and Wiring		2,325.		2,945.	5,270.
Control Building Laboratory Waste				4,100.	4,100.
Settling Facilities and Piping		69,700.		8,365.	78,065.
Wiring		7,525.		2,840.	10,365.
Instrumentation		550.		270.	820.
Settling Tank		12,700.	9,490.	1,815.	24,005.
Rake and Drive Thickener		3,945.		5,815.	9,760.
Gearmotor		340.	340.	50.	730.
Pump, Moyno		1,290.	2,160.	145.	3,595.
Motor, 3 H.P.		585.	1,000.	20.	1,605.
Foundation and Supports		31,325.		6,460.	37,785.
Apportionment of Finishing Building, Plumbing, Sewers and Electrical Lighting		4,529.		1,316.	5,845.
Apportionment of Finishing Building, Electrical and Instrument Facilities Supporting above Equipment		4,264.	1,640.	2,296.	8,200.

Ashtabula, Ohio

<u>Item 2</u>	<u>Equipment</u>	Amount		Total
		Equipment	Component Materials Parts 1)	

The Sherwin-Williams Company  
2900 Middle Road  
Akron, Ohio

The Sherwin-Williams Company

Ashtabula Titanium Dioxide

Water Pollution Control Facility

Ashtabula, Ohio

Item 3. - Issuance of Permit by Ohio Water Pollution Control Board.

THE SHERWIN-WILLIAMS COMPANY  
LIABILITY INSURANCE PROGRAM

POLICY YEARS:

INSURER	POLICY #	POL. EFF.	POL. EXP.	LIMITS OF LIABILITY
EMP. SURPLUS LINE	S1600388	10/01/1965	07/25/1966	\$5,000,000
LLOYDS	MOC721	10/01/1965	10/01/1966	\$150,000 \$250,000
LLOYDS	MOC2973	10/01/1965	07/25/1966	\$150,000 \$250,000
LLOYDS	COVER NOTE	10/01/1965	12/01/1965	\$15,000,000 XS 10,000,000
CONTINENTL CANADA	XPCC102152	12/01/1965	12/01/1966	\$100/300,000 \$100,000
CONTINENTAL CAS	RDX968907	12/01/1965	12/01/1966	\$5,000,000
LLOYDS	U63830	12/01/1965	12/01/1966	\$100/300,000 \$100,000
LLOYDS	U63831	12/01/1965	12/01/1966	\$1,000,000
LLOYDS	U63832	12/01/1965	12/01/1966	\$4,000,000
INA	L846415	09/28/1966	09/28/1967	\$10,000
LLOYDS	U63831	12/01/1966	12/01/1967	\$1,000,000
CONTINENTAL CAS	RDX9688907	12/01/1966	12/01/1967	\$5,000,000
LLOYDS	U66990	12/01/1966	12/01/1967	\$15,000,000
LLOYDS	U63830	12/01/1966	12/01/1967	\$100/300,000 \$100,000
LLOYDS	U63832	12/01/1966	12/01/1967	\$4,000,000
CONTINENTL CANADA	XPCC102152	12/01/1966	12/01/1967	\$100/300,000 \$100,000
INA	L846415	09/28/1967	09/28/1968	\$10,000
CONTINENTL CANADA	XPCC102152	12/01/1967	12/01/1968	\$100/300,000 \$100,000
LLOYDS	U63832	12/01/1967	12/01/1968	\$4,000,000
LLOYDS	U66990	12/01/1967	12/01/1968	\$15,000,000
LLOYDS	U63831	12/01/1967	12/01/1968	\$1,000,000
LLOYDS	U63830	12/01/1967	12/01/1968	\$100/300,000 \$100,000
CONTINENTAL CAS	RDX6988907	12/01/1967	12/01/1968	\$5,000,000
INA	L846415	09/28/1968	09/28/1969	\$10,000
LLOYDS	U66990	12/01/1968	12/01/1969	\$15,000,000
LLOYDS	U63832	12/01/1968	12/01/1969	\$4,000,000
CONTINENTAL CAS	RAX9688907	12/01/1968	12/01/1969	\$5,000,000
LLOYDS	U63831	12/01/1968	12/01/1969	\$1,000,000
LLOYDS	U63830	12/01/1968	12/01/1969	\$100/300,000 \$100,000
LLOYDS	U63831	12/01/1969	12/01/1970	\$1,000,000
LLOYDS	U63830	12/01/1969	12/01/1970	\$100/300,000 \$100,000
LLOYDS	U66990	12/01/1969	12/01/1970	\$15,000,000
LLOYDS	U63832	12/01/1969	12/01/1970	\$4,000,000
CONTINENTAL CAS	RDX9688907	12/01/1969	12/01/1970	\$5,000,000
Lloyds	U74610	12/01/1969	12/01/1970	
Lloyds & British Companies	FUL078254	12/01/1970	12/01/1971	\$100,000 Bodily Injury per person *
				\$300,000 Bodily Injury per occurrence*
				\$100,000 Property Damage per occurrence*

\*Limits are in excess of a \$50,000 self-insured retention

Lloyds & British Companies	FUL078734	12/01/1971	12/01/1972	same as 12/1/70-12/1/71 policies
Lloyds & British Companies	FUL079095	12/01/1972	12/01/1973	same as 12/1/70-12/1/71 policies
Lloyds & British Companies	FUL079482	12/01/1973	12/01/1974	same as 12/1/70-12/1/71 policies
Lloyds & British Companies	FUL079832	12/01/1974	12/01/1975	same as 12/1/70-12/1/71 policies

Document "V"



***THE SHERWIN-WILLIAMS Co.***

2900 MIDDLE ROAD

P. O. BOX 310

ASHTABULA OHIO 44004

WASTE WATER FACILITIES AND TREATMENT

(Supplement to Report Dated January 11, 1968)

FE

July 10, 1968

DOCUMENT "W"

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2. Description of Manufacturing Process	Page 2 - 3
3. Flow Diagram - Waste Handling System	Page 4
4. Engineering Drawing - Waste Handling System	Page 5
5. Waste Water Treatment	Page 6 - 7

**THE SHERWIN-WILLIAMS CO.**

2900 MIDDLE ROAD

P. O. BOX 310

ASHTABULA OHIO 44004

July 10, 1968

Mr. George H. Eagle, Chief Engineer,  
Ohio Department of Health  
P. O. Box #118  
Columbus, Ohio, 43216

Dear Sir:

Submitted herewith are data and drawings covering plans for treatment and control of waste water which are to be incorporated in the Sherwin-Williams Titanium Dioxide manufacturing facility at Ashtabula currently under construction by the DuPont Company.

The Titanium Dioxide operation represents one unit of the entire plant which is comprised of facilities for the production of Barium Carbonate and Barium Monohydrate as well.

The Barium Carbonate facility is in operation. The discharge of waste water from it and the installation and procedures for treatment and control have been covered in a report submitted to your office on January 11, 1968. Approval to discharge this waste water into Fields Brook is covered by permit No. 2106.1, and analysis reports are being furnished as requested.

This report is, in effect, a supplement to the earlier report, and figures have been given to show the results of the combined overall waste water discharge from the plant as a whole.

The Barium Monohydrate section, scheduled to go into operation in the fall of 1968, is expected to increase the flow of waste water by about 40 gallons per minute without any significant effect on its composition.

Sincerely yours,

THE SHERWIN-WILLIAMS CO.

G. F. Hyman,  
General Plant Manager

GFW/am

June 17, 1968

## TITANIUM DIOXIDE MANUFACTURING PROCESS

The chloride process for the manufacture of  $TiO_2$  pigment consists of three main steps. The first involves the conversion of titanium compounds in naturally occurring ore (rutile) to titanium tetrachloride by reacting the ore with chlorine in the presence of carbon at elevated temperatures. The titanium tetrachloride is cooled, condensed and purified. Waste solids from this step are concentrated in acidic water for disposition via a private contractor to an off-plant dumping site by means of rubber lined tank trucks. The exhaust gases from this step are stripped of all acidic formed compounds and any residual chlorine with the acidic water being used to slurry the waste solids for off plant disposition. The final exhausts are scrubbed with water which is neutralized and discharged to one of two settling ponds.

The second step covers the conversion of pure titanium tetrachloride to titanium dioxide by reacting it with hot oxygen. The chlorine released by this reaction is recirculated back to the process. There are no waste streams for disposal from this step.

The third step takes crude  $TiO_2$  formed by the oxidation step and processes it by conventional methods to achieve desired pigment properties. The  $TiO_2$  slurried in water is given surface treatment with various chemical compounds and is then filtered, washed, dried and ground. The filtrates and wash water are collected in a large settling tank to recover any  $TiO_2$  present and the overflow

June 17, 1968

containing dissolved salts ( $\text{NaCl}$  and  $\text{Na}_2\text{SO}_4$ ) is neutralized and discharged to one of two settling ponds. Any traces of solids are settled out in these ponds and a final control is made for to insure that all discharge conforms to specified limits.

WWS:mer



The Sherwin-Williams Company  
P.O. Box 6027  
Cleveland, Ohio 44101-1027  
Environmental

P-601 372 966

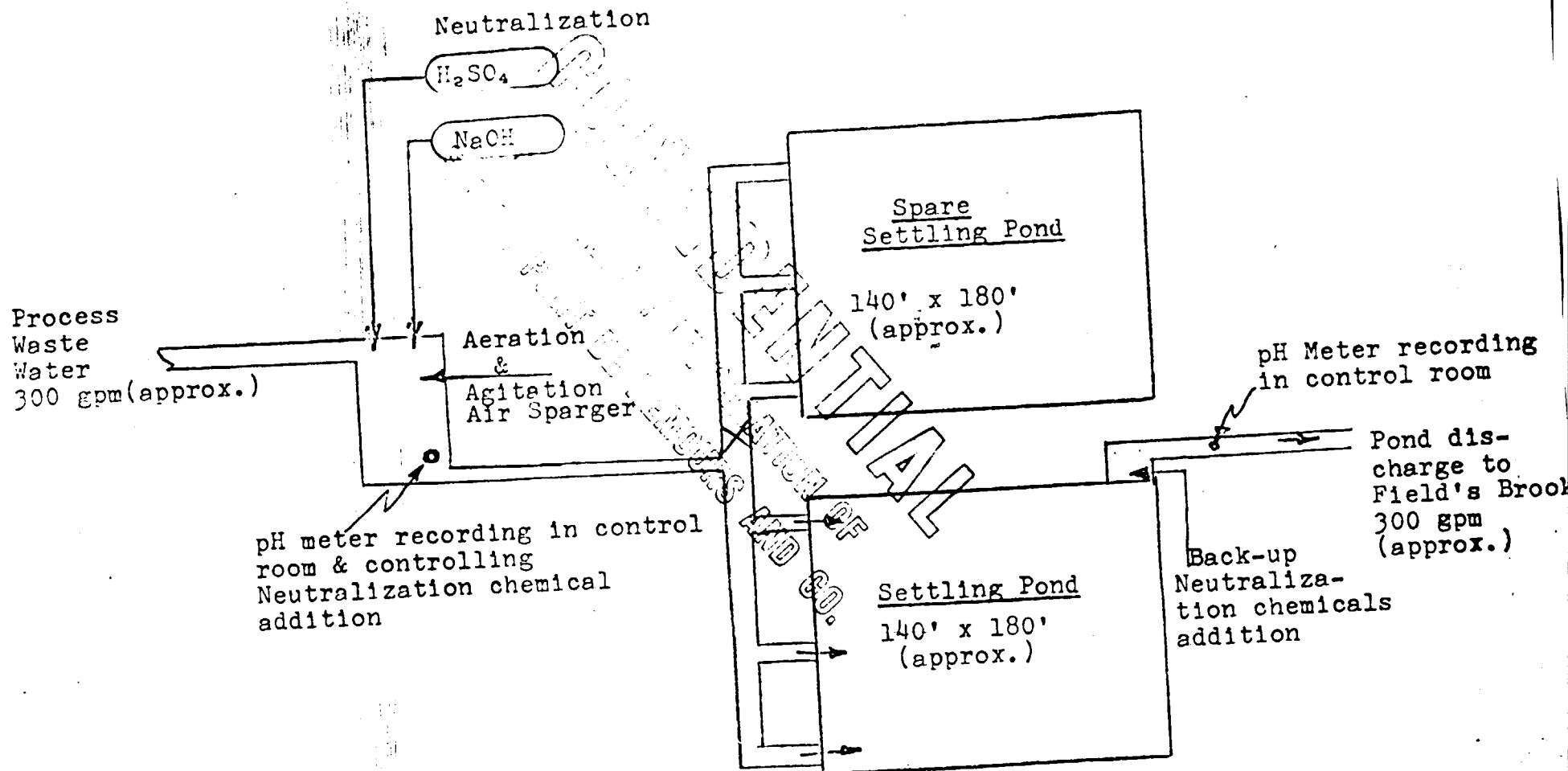
MAIL

Mr. Kerry Street  
U.S. EPA Region V  
Hazardous Waste Enforcement Branch  
230 S. Dearborn  
Chicago, IL 60604

HE



PROCESS WASTE WATER TREATMENT  
SHERWIN-WILLIAMS TiO<sub>2</sub> PLANT



2/1/68

## WASTE WATER TREATMENT

Consumption of chemicals used in treating titanium dioxide plant effluent under typical conditions with the plant operating at full rated capacity will be approximately 33 lbs. of sulfuric acid (100%  $H_2SO_4$ ) and 7400 lbs. of caustic (100% NaOH) per 24 hour day for pH control. It should be noted that pH control instrumentation and recording equipment will be provided as shown on the flow diagram with supplemental back-up facilities as an added precautionary measure and safeguard as shown on the engineering drawing.

Representative composition and volume of the waste before and after final treatment (retention pond) follows:

<u>Analysis</u>	<u>Into Pond</u>	<u>Out of Pond</u>
Flow, gpm	315	275
Chlorides, ppm	-	3200
Dissolved Solids, ppm	10,000	9400
Clarity	Milky	Tap Water
Solids, ppm	100	3
Dissolved Oxygen	1.0	1.5
Free Chlorine	0	0
pH	4.5 - 10.5	7.5
Temperature, °F	120	90

The titanium waste water added to the waste water from barium chemical operations will produce a combined average effluent from the plant as a whole as follows:

		<u>ppm</u>	
	<u>Volume</u>	<u>Chlorides</u>	<u>Dissolved Solids</u>
Incoming Water (Ashco)		60	250
Barium Chemicals Manufacture	350 gpm	60	450
Titanium Dioxide Manufacture	275 gpm	3200	9400
Barium and Titanium Operations Combined	625 gpm	1440	4400

	<u>Combined Effluent</u>	
<u>Source of Chlorides</u>	<u>ppm</u>	<u>%</u>
Incoming Water	60	4
Air Pollution Abatement	1010	70
Other	370	26

	<u>Combined Effluent</u>	
<u>Source of Dissolved Solids</u>	<u>ppm</u>	<u>%</u>
Incoming Water	250	6
Air Pollution Abatement	1860	42
Other	2290	52

7-10-68





The Sherwin-Williams Company  
101 Prospect Avenue, N.W.  
Cleveland, Ohio 44115-1075

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

December 14, 1987

Mr. Kerry Street  
U.S. EPA Region V  
Hazardous Waste Enforcement Branch  
230 S. Dearborn  
Chicago, IL 60604

Re: Fields Brook, Ashtabula County, Ohio

Dear Mr. Street:

Per our conversation of Friday, December 11, 1987 you are extending the due date of the Request for Information from the Sherwin-Williams Company on this site 30 days to January 11, 1988.

Thank you for your consideration in this matter.

Sincerely,

Albert A. Arters  
Dir. of Env. Services for  
Solid Waste and Superfund  
(216)566-2969

AAA/bh

cc: R. M. Weaver  
J. J. Gerulis

SEP 26 1973

Date:

NPDES Application No:  
OH 070 OX2 2 000205NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT PROGRAM  
(Section 402, Federal Water Pollution Control Act Amendments of 1972)

## FACT SHEET

## Proposed NPDES Permit to Discharge into Navigable Waters

U.S. Environmental Protection Agency  
Region V, Permit Branch  
1 North Wacker Drive  
Chicago, Illinois 60606  
312-353-1346Ohio EPA  
Seneca Towers  
P. O. Box 1049  
Columbus, Ohio 43216  
614-469-8595

Joint Public Notice No:

35I-0043

Joint Public Notice Issued on:

September 26, 1973

Name and Address of Applicant:

The Sherwin-Williams Company  
101 Prospect Ave., N.W.  
P. O. Box No. 6027  
Cleveland, Ohio 44101Name and Address of Facility  
where Discharge Occurs:Sherwin-Williams Chemical Div.  
P. O. Box No. 310  
Ashtabula, Ohio 44004Receiving Water: A) Field's Brook or  
B) Lake ErieI. Location of Discharge

The above named applicant has applied for an NPDES permit, which will be issued by the U.S. Environmental Protection Agency or other NPDES issuing authority, to discharge into the designated receiving water. A description and/or sketch of the location of the discharge is appended as Attachment I.

II. Description of Existing Discharge

A quantitative description of the existing discharge in terms of

64/117

Date: SEP 26 1973  
NPDES Application No:  
OH 070 0X2 2 000205

significant effluent parameters is appended as Attachment II.

### III. Proposed Determinations

- A. The U.S. Environmental Protection Agency has examined the application and has made the tentative determination to issue the permit subject to certain effluent limitations and other mandatory conditions and subject to State certification.
- B. The effluent limitations in the proposed permit are appended as Attachment IIIa.
- C. The schedule of compliance for meeting the proposed effluent limitations is appended as Attachment IIb.
- D. The other special conditions in the proposed permit may include, but are not necessarily limited to : monitoring, recording, and reporting discharges; limiting discharges of oil, hazardous substances, collected solids, visible floating solids, foams, and effluent batch discharges; planning for electric power failure and spill prevention and containment; and prohibiting bypass of treatment facilities. Persons wishing further information about the special conditions may contact the U.S. Environmental Protection Agency.

### IV. Procedures for the Formulation of Final Determinations

- A. Interested persons are invited to submit written comments upon the proposed discharge. Comments should be submitted in person or by mail no later than 30 days after the joint public notice of this application is issued. Deliver or mail all comments to:

Mrs. Carolyn Cates  
Region V, Permit Branch  
U.S. Environmental Protection Agency  
1 North Wacker Drive  
Chicago, Illinois 60606

The application and joint public notice numbers should appear next to the above address on the envelope and on each page of any submitted comments. All comments received no later than 30 days after the joint public notice is issued will be considered

Date: SEP 26 1973

Application No.:  
OH 070 0X2 2 000205

in the formulation of final determinations. The U. S. Environmental Protection Agency or other NPDES authority will issue final determinations in a timely manner after the expiration of the public comment period.

- B. Any person may request an adjudicatory hearing to consider the proposed permit. The Regional Administrator will consider requests received no later than 20 days after the notice that follows a public hearing is issued. The Regional Administrator may, at his discretion, grant the request for an adjudicatory hearing. Adjudicatory hearings will be held pursuant to Section 125.34(c), Federal Register, May 22, 1973, Volume 38, Number 98, p. 13537. Adjudicatory hearings will consider specific contested issues relating to the permit and will be conducted in conformance with procedures established in the Administrative Procedure Act (5 U.S.C. § 1001 et. seq.).

Requests for an adjudicatory hearing should: state the name and address of the person requesting the hearing and of any person represented at the hearing by the requester; identify the interest in the proposed permit of the requester and of any person represented by him; state the reasons for the request; state the issues proposed to be considered at the hearing; and state the position of the requester on the issues to be considered at the hearing. In addition, the request for an adjudicatory hearing shall include an agreement by the requester to subject himself, or if a corporation to subject its employees, to examination and cross-examination upon the request of the presiding officer.

- C. Persons wishing further information may contact the U. S. Environmental Protection Agency. Copies of the application, proposed permit including proposed effluent limitations, special conditions, comments received, and other documents are available for inspection and may be copied at a cost of 20 cents per page.

V. Use Classification, Water Quality Standards, and Effluent Limitations

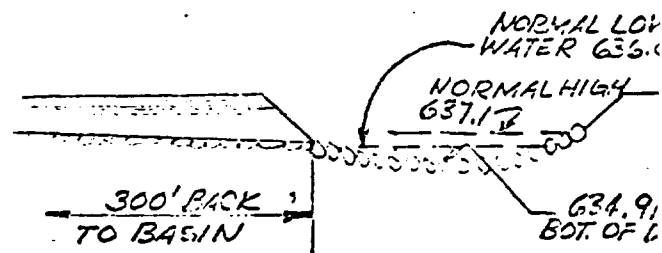
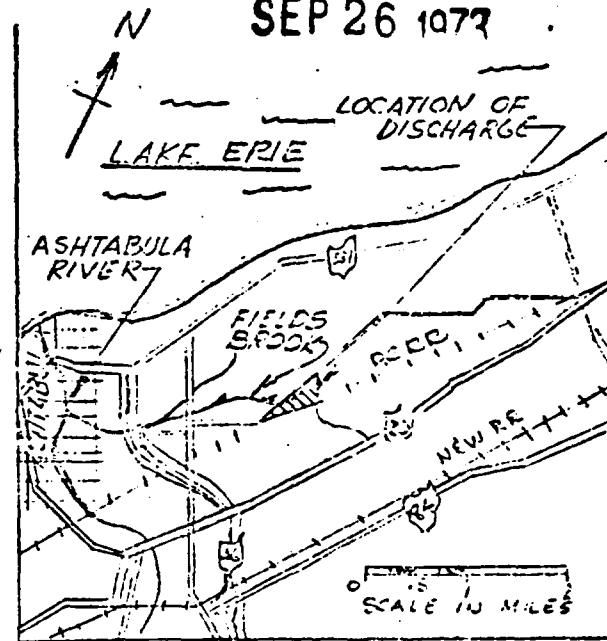
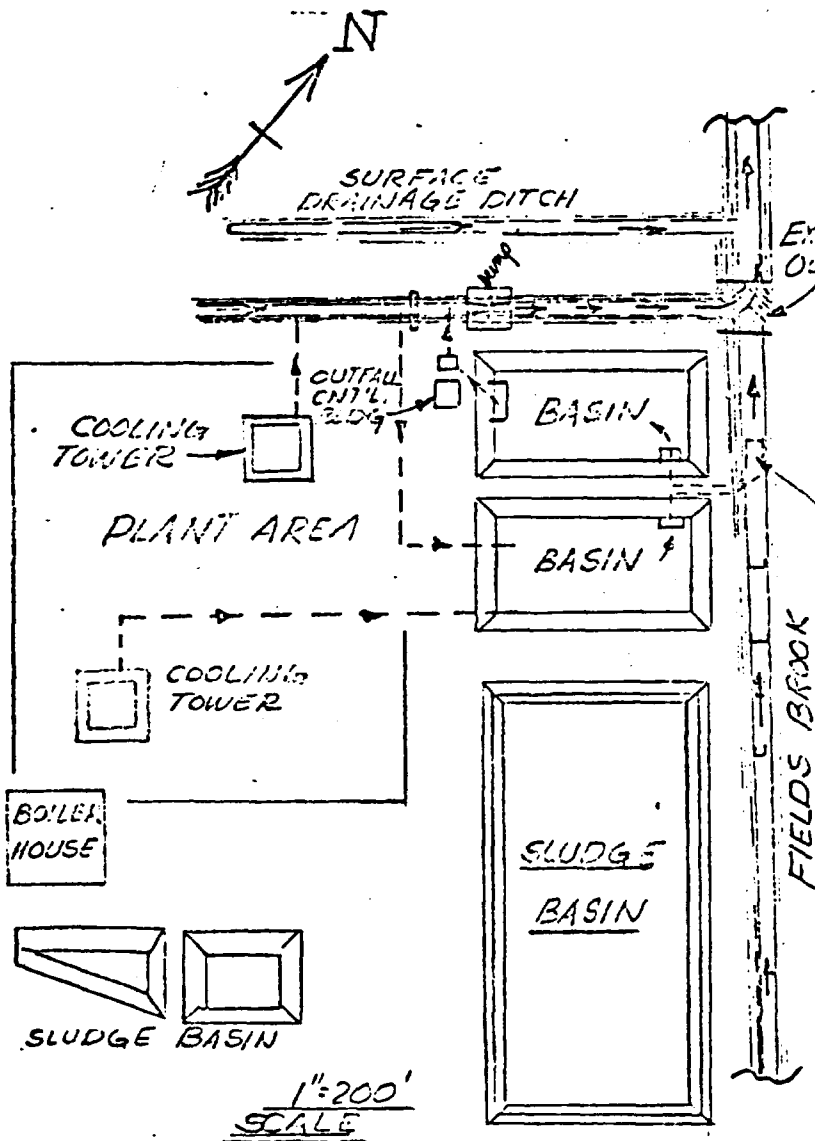
The receiving water in Option A, Field's Brook, is classified as a low flow stream. The receiving water in Option B, Lake Erie, is classified for all uses.

The following water quality standards and effluent standards and limitations were applied to the discharge:

Ohio EPA regulations EP-1-01 through EP-1-07 inclusive, adopted July 27th 1973.

# ATTACHMENT I

SEP 26 1973



PROFILE, OUTFALL

DISCHARGE LOCATION (001)  
INTO: FIELDS BROOK  
AT: ASHTABULA PLANT: TIDOX® OPERATION  
COUNTY of: ASHTABULA , STATE: OHIO  
APPLICATION BY: SHERWIN-WILLIAMS CHEM. CO.

DATE: 1-8-7

NPDES # OH-070-0X2-2-000205

APPLICANT SHERWIN WILLIAMS CHEMICAL DIV.

ATTACHMENT II

Page 1 SEP 26 1973

Outfall # 001

Flow 0.67 MGD

<u>EFFLUENT CHARACTERISTIC</u>	<u>AVERAGE CONCENTRATION</u>
Total Suspended Solids	8 mg/l
Total Dissolved Solids	5000 mg/l
Total Chromium	0.06 mg/l
Copper	0.06 mg/l
Zinc	0.06 mg/l

Temperature: Summer Ave. 89  
" Max. 109

Winter Ave. 74  
" Max. 75

pH MINIMUM 6.5  
AVERAGE 7.1  
MAXIMUM 8.0

NPDES # OH-070-0X2-2-000205

APPLICANT SHERWIN WILLIAMS CHEM DIV

SEP 26 1973

# ATTACHMENT III a

Page 1

## Proposed Effluent Limitations

OPTION B) DISCHARGE TO LAKE ERIE

EFFLUENT DISCHARGE LIMITATIONS

OUTFALL #	CHARACTERISTIC	Ave. mg/l	MAX. mg/l	Ave. mg/l	MAX. mg/l
001	TSS Suspended Solids	N/A	N/A	23	50
001	TSS Dissolved Solids	N/A	N/A	15000	17000
001	TSS Chromium	N/A	N/A	0.141	0.28
001	Copper	N/A	N/A	0.141	0.28
001	Zinc	N/A	N/A	0.141	0.28

NPDES # CH-070-0x2-2-

APPLICANT

ATTACHMENT III 6

SEP 26 1973

COMPLIANCE SCHEDULE

		OPTION A		OPTION B	
1) REPORT OF PROCESS	JAN 1, 1974	JAN 1, 1974	JAN 1, 1974	JAN 1, 1974	JAN 1, 1974
2) COMPLETION OF FINAL PLANS	MAR 1, 1974	MAR 1, 1974	MAR 1, 1974	MAR 1, 1974	MAR 1, 1974
3) COMMENCEMENT OF CONSTRUCTION	MAY 1, 1974	MAY 1, 1974	MAY 1, 1974	JULY 1, 1974	JULY 1, 1974
4) COMPLETION OF CONSTRUCTION	DEC 1, 1974	DEC 1, 1974	DEC 1, 1974	MAR 1, 1975	MAR 1, 1975
5) ATTAINMENT OF OPERATIONAL LEVEL	APR 1, 1975	APR 1, 1975	APR 1, 1975	APR 1, 1975	APR 1, 1975

July 12, 1973

HAGUE & HAGUE  
Attorneys at Law  
PO Box 695  
Ashtabula, Ohio 44004

Our Order J-3371

RE: Samuel Krugliak -to- Delta Associates Limited, a limited partnership

Location: State Road and Middle Road, Ashtabula Township

Gentlemen:

Please be advised that the Quit Claim Deed and Mortgage Deed in this matter were filed for record this date and title is now vested in DELTA ASSOCIATES LIMITED.

The mortgage for \$150,000.00, from Delta Associates Limited, a limited partnership, to The Farmers National Bank and Trust Company of Ashtabula, dated July 6, 1973, was filed for record July 12, 1973 at 11:21 A.M., being Ashtabula County Recorder's File No. 296202.

The County Treasurer's 1972 General Tax Duplicate shows:

Taxes for the first half of 1972, listed in the name of Samuel Krugliak, amounting to \$1,534.20, are paid. Taxes for the second half of 1972, amounting to \$1,534.20, are a lien.

Taxes for the year 1973 are a lien, but not yet due and payable.

We find no other liens to be paid out of escrow.

Very truly yours,

LAND TITLE GUARANTEE AND TRUST CO.

By:

Vincent L. Fox,  
Jefferson Agent

njr

cc: Samuel Krugliak  
Carey S. Sheldon



SCM

EPA NO.  
19-5L46-0

100411

E. 6  
C. 12  
P. O. Box 310  
2900 Middle Road  
Ashtabula, Ohio 44004  
Phone: 216-998-1825

April 15, 1970

State of Ohio Department of Health  
Water Pollution Control Board

Gentlemen:

As requested by letter dated March 25, 1970, from Water Pollution Control Board Chairman, E. W. Arnold, M. D., I wish to submit herewith the following statement with regard to The Sherwin-Williams Company program of waste water treatment at their Ashtabula plant site.

My name is George F. Wyman. I am General Plant Manager of the Ashtabula plant of The Sherwin-Williams Company, Chemicals Division.

The Ashtabula plant is comprised of two operations: one for the production of Barium and Strontium compounds and the other for the production of Titanium Dioxide by the Chloride Process.

ever-changing conditions.

Observations of the waste water effluents during the shakedown period which we have been going through have indicated that our facilities are entirely satisfactory in most respects. However, it has been ascertained that there is a source of suspended solids in the plant effluents resulting from the water treatment necessary to meet water quality requirements of steam production and process use which was not provided for in the original installation. Engineering studies are in progress for the purpose of designing and installing supplementary facilities to correct this situation. Completion of this project is forecast by late fall of this year.

It is somewhat ironical that the solids produced by the treatment are a direct result of the necessity to purify water coming from Lake Erie.

The other problem area which faces us is in the matter of dissolved solids. As indicated earlier, the Titanium Dioxide plant is equipped, and maintains in operation, facilities to limit atmospheric emissions to meet the very high standards in effect in the state of California. The scrubbing system employed to accomplish this result introduces soluble salts (sodium chloride and sodium sulfate) into the waste water stream, and some difficulty is being experienced in staying within Ohio criteria limits at all times. In view of this and the

JAMES M. AUNGST  
HUBER J. SNYDER  
JOHN P. WALSH  
SAMUEL KRUGLIAK

LAW OFFICES  
AUNGST, SNYDER, WALSH & KRUGLIAK  
916 - 918 RENKERT BUILDING  
CANTON 2, OHIO

C-1143-56

February 24, 1956

Albert J. Snook, Esquire  
30 East 42nd Street  
New York 17, New York

Re: National Carbide Company Plant  
Plancor 1166 (R-Ohio-437)  
Ashtabula, Ohio

Dear Al:

As requested in your letter of February 15, I am noting below certain miscellaneous information concerning the captioned property which might be of some future use.

Mr. Kaufmann, Counsel for General Services Administration, indicated that the Administration would consider the proration of the contract price covering both real and personal property between the deed and the bill of sale if Union Carbide could furnish a break down of the value between the two classifications of property. You will recall that the form of deed submitted recited as the consideration for the deed the full contract price and a nominal consideration of \$1.00 in the bill of sale.

The list of personal property attached to the bill of sale included two motor vehicles which I understand from Mr. LeRoy are located on the plant property but have not been licensed for use for some years. Title to these vehicles can be transferred only by Certificates of Title. Mr. Kaufmann suggested these certificates might be among the plant records. It is more probable that they are in the records of Reconstruction Finance Corporation. If they cannot be located, duplicate certificates should be obtained from the Clerk of Courts at Jefferson, Ohio, to accomplish any transfer of title.

General Services Administration apparently had no copy of the plat of survey made by Kittinger and Candela in October 1942 mentioned in Mr. Kaufmann's letter of January 31 to Mr. Bandel.

A photostatic copy of that plat is enclosed for your files. The description contained in Policy of Title Insurance No. Lk-1923 issued by Land Title Guarantee and Trust Company to Defense Plant Corporation does accurately describe the entire plant site, including and being limited to the three parcels separately described in the proposed form of quit claim deed submitted by Mr. Kaufmann.

In connection with the construction of this plant, Defense Plant Corporation installed certain off-site facilities within the boundaries of public roads and streets as follows:

- (1) An eight inch (8") transite water line supposed to commence at the intersection of East 23d Street and Niagara Avenue in Ashtabula at a meter of The Ashtabula Water Works Company and to run thence East on the North side of East 23d Street to the East side of Columbus Avenue; thence Northerly on the East side of Columbus Avenue to East 21st Street; thence Easterly along the South side of East 21st. Street to State Road and thence Easterly across said road to the above described premises.
- (2) A thirty inch (30") storm sewer supposed to leave the above described premises at the Northwest corner thereof, that is, at the Southeast corner of State Road and Middle Road and to run thence across Middle Road and then Northerly on the East side of State Road to Field Brook.
- (3) A three inch (3") water line supposed to commence in State Road about 279.5 feet south of the New York Central Railroad right of way and to run Northerly in State Road about 666 feet to its point of entrance into the above described premises.

The location of the first two of these items is shown on drawing EA-4452-7 prepared by The Rust Engineering Company, a copy of which is enclosed for your file. We do not have a drawing showing the location of the 3" water line which was originally installed for construction purposes only, and therefore regarded as a temporary line. Mr. LeRoy has reported that all of these facilities are in place although the 3" line is not in use.

February 24, 1956

Albert J. Snook, Esquire

-3-

In a letter dated September 9, 1955, addressed to Mr. LeRoy, a copy of which was sent to Mr. Bandel, I reported the existence of these off-site facilities and identified the agreements and authorizations under which they were constructed. In that letter I also identified a side track agreement and resolution of the Ashtabula Township Trustees relative thereto. With a subsequent letter, dated November 4, 1955, I sent Mr. LeRoy copies of as many of these documents as were available in our file. In the last letter I also called his attention to the existence of a report prepared by The Rust Engineering Company, under date of January 2, 1943, relative to the effect of the development of the property upon drainage in the area. The conclusion of that report was that the development would not modify the watershed of Field Brook although it would, of course, accelerate drainage into that watercourse from the property.

Very truly yours,

JLW mbw  
enc.

CC - Mr. J. M. Bandel  
enc.



# NATIONAL CARBIDE CORPORATION

LINCOLN BUILDING

OPPOSITE GRAND CENTRAL

NEW YORK

March 15, 1943

ALL QUOTATIONS, CONTRACTS AND AGREEMENTS  
ARE CONTINGENT UPON STRIKES, FIRES, ACCIDENTS,  
OR OTHER CONTROLLING CONDITIONS

PLANTS:

IVANHOE, VIRGINIA  
KEOKUK, IOWA

Mr. Roland R. Roach,  
Supervising Engineer,  
Defense Plant Corporation,  
Room 1505, 295 Madison Ave.,  
New York, N.Y.

Subject: Plancor #1166  
Ashtabula Carbide Plant

Dear Mr. Roach,

Ten copies of Lump Sum Sub-Contract #10, four copies of Recommendation for Placement, one copy each of Requisition and Request for Bids are submitted herewith for your approval.

<u>Lump Sum SubContract</u>	<u>Vendor</u>	<u>Amount</u>
#10	Elwin G. Smith & Co.	\$38,345.00

Attached also are, 3 copies each of quotation bids by Elwin G. Smith and Company, F.J. Meyerl, Inc., and James Blackhall. These bids were opened by your Field Supervising Engineer, A.L. Collette, at the Site per enclosed signed statement in triplicate dated March 2, 1943.

Attached also are 3 sets of Specifications #VIII dated Jan. 22, 1943 and one set of 27 Blueprints per numbers named in the specifications.

After approval please return 4 approved copies of the Sub-Contract to us for the required transmittal to the principles. We will assume, unless you state otherwise, that upon presentation of the approved contract to the Sub Contractor that it will be satisfactory to you for us to request a Performance and Payment Bond from the Sub Contractor.

Yours very truly,

NATIONAL CARBIDE CORPORATION

*R.J. Niebanck*  
R.J. NIEBANCK  
CHIEF ENGINEER

RJN:EF

November 4, 1955

M. J. LeRoy, Manager  
Electro Metallurgical Company  
P. O. Box 351  
Ashtabula, Ohio

Re: National Carbide Corporation Plant  
Ashtabula, Ohio

Dear Milt:

Pursuant to the request contained in your letter of October 13, 1955, I enclose herewith three conformed copies of each of the following items as taken from our file in connection with the acquisition of the captioned property for Defense Plant Corporation on Plancor 1166. As to Item 2, we also enclose a duplicate original of the Acceptance. If the sale of this property to Union Carbide and Carbon Corporation is approved by the Department of Justice and the transaction completed, we will ask General Services Administration to deliver to you the original of all of these items. To the extent that originals cannot be found of ordinances and resolutions, it may in those instances where such ordinance or resolution has continuing effect be desirable to obtain certified copies from the proper public official.

1. Ordinance 3168 of the City of Ashtabula adopted May 3, 1943.
2. Acceptance of the terms of such Ordinance by Defense Plant Corporation, dated May 8, 1943.
3. Acceptance by DPC, dated May 8, 1943, of the terms of a resolution of the Ashtabula Township Trustees adopted April 7, 1943, relative to the 8" water line.
4. Resolution of the Ashtabula County Commissioners relative to such water line adopted January 11, 1943.
5. Acceptance of the terms of such resolution by DPC, dated January 23, 1943.

6. Agreement between The Ashtabula Waterworks Company and DPC, dated July 17, 1943.
7. Resolution of the Ashtabula County Commissioners adopted January 11, 1943, relative to 30" storm sewer.
8. Acceptance of the terms of such Resolution by DPC, dated January 23, 1943.
9. Acceptance by DPC dated May 8, 1943, of terms of a Resolution of the Ashtabula Township Trustees relative to 30" storm sewer adopted April 7, 1943.
10. Sidetrack agreement dated January 12, 1943, between The New York Central Railroad, DPC and National Carbide Corporation.
11. Resolution of Ashtabula Township Trustees relative to the sidetrack adopted December 16, 1942.
12. Acceptance of the terms of said resolution by DPC, dated January 22, 1943.
13. Resolution of Ashtabula County Commissioners relative to "temporary" 3" water line adopted July 10, 1944.
14. Acceptance of the terms of such resolution by DPC, Dated July 31, 1944.
15. Letter from Frank T. Ronan, Vice President of DPC, to New York Central Railroad System, dated April 15, 1944.

We do not have in our files copies of the following:

- (a) Resolution of the Ashtabula Township Trustees relative to 8" Water line adopted April 7, 1943, and referred to by Item 3.
- (b) Resolution of said Trustees adopted April 7, 1943, relative to 30" storm sewer and referred to by Item 9.

November 4, 1955

M. J. LeRoy

-3-

- (c) Any of the plats, drawings or other documents incorporated by reference in any of the enclosed items except those drawings prepared by The Rust Engineering Co., Pittsburgh, Pennsylvania, for National Carbide Corporation identified as EA-4452-301 (Revised 12-29-42); Ea-4452-304; EA-4452-305 and Ea-4452-306. One copy of each of those drawings is enclosed.

You will note from an examination of the terms of several enclosures that while they indicate the existence of physical facilities available for the service of the plant site which, as reported in your letter of October 13, are still in place, the rights granted by the instruments are limited in their terms. Consequently, if this property is acquired, we will wish to recommend a definite course of action for obtaining appropriate agreement permitting the continued maintenance of any facilities which you do not abandon.

With reference to the observation in your letter as to the drainage of Field Creek, I do note for your records that our file in connection with the acquisition of the captioned property shows that consideration was given by the engineers to the possibility that the development of the site would create or aggravate a drainage problem. To that end a report, dated January 2, 1943, was prepared by The Rust Engineering Company. The conclusion of that report was that the site development would not divert to Field Creek or "Field Brook", as it is identified in such report, any water which did not lie within the watershed of that Creek. It did observe that there would be added to the drainage the effluent from the sanitary sewage disposal plant. The DPC engineers further observed, of course, that the drainage into the Creek would be accelerated by the development of the property. If the property is acquired, I will endeavor to obtain a copy of this engineering report and the drawings which accompanied it for your file.

Very truly yours,

JLW mbw  
enc

CC- J. M. Bandel, Vice President  
Electro Metallurgical Company

## 4

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SHERWIN WILLIAMS - 1971

N.I.

MSHTRAGULA, OHIO

IDENTIFICATION	TYPE OF SAMPLE	PLANT (MID) W/L	H <sub>2</sub> W/L	NS W/L	Pb W/L	Cd W/L	Fe W/L	Cu W/L	Cr W/L	Ba W/L	RE W/L
1. TITANIUM DIOXIDE PINK DISCHARGE	12 SAMPLES - 24 HR. COMP. 1000-0800	0.43 (SW) 0.2-0.014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.43 (SW) 0.2-0.014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.43 (SW) 0.2-0.014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. SEPTIC TANK AND BOILER PLANT DOWN CUT FILL	12 SAMPLES - 24 HR. COMP. 1000-0800	0.43 (SW) 0.2-0.014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.43 (SW) 0.2-0.014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.43 (SW) 0.2-0.014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. BARIUM & STRONTIUM POND DISCHARGE	12 SAMPLES - 24 HR. COMP. 1000-0800	0.43 (SW) 0.2-0.014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.43 (SW) 0.2-0.014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.43 (SW) 0.2-0.014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHERWIN WMS. INFL. TAKEN AT 100 ASHCO TWP AT GENERAL TIRE BOILER BUILDING - (FOR DATES OF 4/19 & 20/71)	2 GRABS AT 1800 & 0200	0.36 (SW) 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.36 (SW) 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.36 (SW) 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHERWIN WMS. INFL. TAKEN AT 100A-11540 FIRE HYDRANT AT CARBON TITANIA - (FOR DATES 4/20-22/71)	6 SAMPLES - 24 HR. COMP. 1000-0800	0.36 (SW) 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.36 (SW) 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.36 (SW) 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. SOUTH BRANCH FIELDS BROOK, DOWNSTREAM SIDE OF MIDDLE ROAD BRIDGE	12 SAMPLES - 24 HR. COMP. 1000-0800	0.36 (SW) 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.36 (SW) 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0.36 (SW) 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THE PARAMETER VALUES OF 4/19-20/71 ARE GIVEN IN AVERAGE											

DETERMINED FROM GRADES

# SHERWIN WILLIAMS METALS ANALYSES

		Mercury µg/l	Arsenic µg/l	Lead µg/l	Cadmium µg/l	Iron µg/l	Copper µg/l	Chromium µg/l	Nickel µg/l	Zinc µg/l	Titanium µg/l
LEBO No. 349, Sherwin Williams to Fields Br. to Ashtabula R. to Lake Erie, eff. comp. (2 hrs.) No. 5 septic tank boiler blowdown at discharge pipe (16" O) just south of Middle Rd. in plant park Ins. lot. 1000 - 0800 hrs. 0.482 MGD (LEBO)	4-19-71 4-20-71	<0.1	<6.0	<200	<20	800	<40	<20	<60	<40	
LEBO No. 348, Sherwin Williams, to Fields Brook to Ashtabula River to Lake Erie, eff. comp (2 hrs) No. 1 titanium dioxide pond discharge, <u>outfall</u> to Fields Brook on plant property 0.432 MGD, 1000-0800 hrs.	4-19-71 4-20-71	0.2	<6.0	<200	<20	<200	<40	110	<60	<40	
LEBO No. 362, Sherwin Williams to Fields Brook to Ashtabula River to Lake Erie, eff. comp. No. 1 Titanium dioxide pond, 0.432 MGD, 1000-0800 hrs.	4-20-71 4-21-71	<0.1	<6.0	<200	<20	<200	<40	20	<60	<40	
LEBO No. 350, Sherwin Williams to Fields Brook to Ashtabula River to Lake Erie, eff. comp. (2 hrs) No. 3 barium and strontium compound pond dis- charge at weir (y-notch) as eff. leaves pond. 0.155 MGD 1000- 0800 hrs.	4-19-71 4-20-71	<0.1	<6.0	<200	<20	900	<40	<20	<60	<40	

SHERWIN WILLIAMS METALS ANALYSES

		Mercury µg/l	Arsenic µg/l	Lead µg/l	Cadmium µg/l	Iron µg/l	Copper µg/l	Chromium µg/l	Nickel µg/l	Zinc µg/l	Titanium µg/l
LEBO No. 364, Sherwin Williams to Fields Brook to Ashtabula R. to Lake Erie, eff. comp. No. 3 strontium and barium pond, 0.156 MGD, 1000-0800 hrs. dis- charge at weir (v-notch) as eff. leaves pond.	4-20-71 4-21-71	<0.1	<6.0	<200	<20	600	<40	<20	<60	<40	
LEBO No. 378, Sherwin Williams to Fields Brook to Ashtabula R. to Lake Erie eff. comp. No. 3 barium and strontium pond dis- charge at weir (v-notch) as eff. leaves pond. 0.156 MGD, 1000-0800 hrs.	4-21-71 4-22-71	<0.1	Interfer- ence	<200	<20	900	<40	<20	<60	<40	
LEBO No. 363, Sherwin Williams to Fields Br. to Ashtabula R. to Lake Erie, eff. comp. No. 2 septic tank and boiler blow- down, 0.4207 MGD at discharge pipe.	4-20-71 4-21-71	<0.1	<6.0	<200	<20	1000	<40	<20	<60	<40	
LEBO No. 377, Sherwin Williams to Fields Br. to Ashtabula R. to Lake Erie eff. comp. No. 2 septic tank and boiler blowdown at discharge pipe (16" 10) just south of Middle Rd. in pH park- ing lot. 1000-0800 hrs. .03959 MGD.	4-21-71 4-22-71	<0.1	<6.0	<200	<20	800	<40	<20	<60	<40	

Mercury µg/l	Arsenic µg/l	Lead µg/l	Cadmium µg/l	Iron µg/l	Copper µg/l	Chromium µg/l	Nickel µg/l	Zinc µg/l	Titanium µg/l
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LEBO No. 376, Sherwin Williams 4-21-71  
to Fields Brook to Ashtabula R. 4-22-71  
to Lake Erie, eff. comp. No. 1  
titanium dioxide pond discharge outfall  
to Fields Brook on plant property,  
0.432 MGD, 1000-0800 hrs.

<0.1	<6.0	<200	<20	3000	<40	<20	<60	<40	10
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# Non-Responsive





Sherwin Williams Company

June 8, 1966 to October 10, 1974

Tickle/TiO<sub>2</sub> Plant

- (a) Manufacture of titanium tetrachloride, titanium dioxide and strontium carbonate.
- (b) Waste piles on site.
- (c) This facility is a source of heavy metals, including arsenic and cadmium. It is believed the waste piles and process water resulting from the strontium carbonate operation are the primary sources of arsenic and cadmium.

<u>Number</u>	<u>Date</u>	<u>Description</u>
G 1002	2/20/80	Glaus Pyle and Schomer Sewer and Water Line Plan
7562-6-L1		SCM Plant Layout

- b. The inactive barium and strontium carbonate process facilities were shut down by Sherwin Williams in 1972 and later dismantled. At this time, the locker room (Bldg. #6) sanitary fixtures were removed except for wash basins, and the sanitation facility was deactivated. See Drawing G1002. The outflow from the wash basins is tied into the 736 LF 91" x 58" storm sewer flowing north under Middle Road. All catch basins tie into the same storm sewer. The storm sewer picks up run off from south of the railroad tracks. All active plant sanitary fixtures are connected by underground laterals to the treatment plant. All process sewers and process area stormwater sewers lead to the north ditch which in turn leads to the wastewater treatment facilities.
- c. Sewer lines have indirect access to Fields Brook via the wastewater treatment facilities.

from [REDACTED] property located at 2900 Middle Road, in

Ash

The location of each drainage ditch.

Whether runoff or discharge from each drainage ditch has direct or indirect access to Fields Brook or a tributary thereof.

- c) Any information regarding the presence, or potential for releases, of hazardous substances or constituents in the ditches.

Response:

- a. The location of existing drainage ditches at SCM Plant 1 are indicated on the attached drawings (Documents 1533-34):

<u>Number</u>	<u>Date</u>	<u>Description</u>
G1002	2/20/80	Glaus Pyle and Schomer Sewer and Water Plan
7562-6-L15		SCM Plant Layout
		- 4933N
		- 3674N
		- 4940N
		- 4490N (north ditch)
		- 4560N

- b. The facilities' main drainage ditch is the North Ditch located at 4490N. See Drawing 7562-6-L15 Run-off from the plant goes to the North Ditch where it is isolated and subsequently pumped via lift station into the process waste and water treatment system and finally discharged into a tributary of Fields Brook; Ditch 3674N. Via the South Ditch, flue pond process water is transferred to Ponds B & A, treated and recycled to the raw water treatment flocculator. This South Ditch will discharge to the Fields Brook only if hydraulic overload conditions occur.
- c. The SCM Spill Prevention Control and Countermeasure (SPCC) Plan, March 25, 1986, describes the potential for spills of hazardous substances and constituents in ditches and the structures and response actions to prevent contamination of the environment.

The SPCC plan is attached as Document 1533.

titanium tetrachloride by reacting the ore with chlorine in the presence of carbon at elevated temperatures. The titanium tetrachloride is cooled, condensed and purified.

Chlorinated waste solids from this step are concentrated in acidic water for disposal via a private contractor to an off-plant dumping site by means of rubberlined tank trucks. The exhaust gases from this step are stripped of acid forming compounds and any residual chlorine, with the acidic water being used to slurry the waste solids for off-plant disposition. The final exhausts are scrubbed with water which is neutralized and discharged to one of two settling ponds and finally into Fields Brook.

The second step covers the conversion of pure titanium tetrachloride by reacting it with hot oxygen. The chlorine released by this reaction is recirculated back to the process. There are no waste streams for disposal from this step.

The third step takes crude titanium dioxide formed by the oxidation step and processes it by conventional methods to achieve desired pigment properties. The titanium dioxide slurried in water is surface treated and is then filtered, washed, dried, ground and packaged.

The filtrates and wash water are collected in a large settling tank to recover any titanium dioxide present, and the overflow containing dissolved salts ( $\text{NaSO}_4$  and  $\text{NaCl}$ ) is neutralized and discharged to two settling ponds. Solids are settled out in these ponds, and a final control is made for pH to insure that all discharges conform to specific limits.

Materials

1. Celestite Ore
2. Sulfuric Acid
3. Chlorine
4. Caustic Soda
5. Nitrogen
6. Oxygen
7. Carbon
8. By-Product HCl

BARIUM AND STRONTIUM PROCESS DESCRIPTION

Prior to SCM's ownership of Plant 1, Sherwin-Williams operated a barium and strontium manufacturing process. SCM did not operate this process.

Strontium or barium carbonate was essentially produced in the same process with changes in operating conditions of manufacturing equipment. Both were converted from ores, celestite for strontium carbonate and barytes for barium carbonate. In manufacturing, either celestite or barytes ore (blended with coke) was reduced in a kiln, then milled prior to a carbon dioxide precipitation-crystallization step. The strontium or barium carbonate product was then separated, washed, dried, screened and packaged.

Principal Raw Materials

1. Celestite Ore or Barytes Ore
2. Coke
3. Soda Ash

## PLANT 2

T<sub>1</sub>O<sub>2</sub>/T<sub>1</sub>Cl<sub>4</sub> PROCESS DESCRIPTION

For the period from November 1983 through November 1984 the manufacturing processes were the same as those described in Request 19.

Since December 1984 the rate of waste generation has reduced to 200 yd<sup>3</sup>/10<sup>6</sup> pounds of TiCl<sub>4</sub> production or 40 tons/year.

Up to December 1984 the Chlorine Recovery system utilized H<sub>2</sub>SO<sub>4</sub> to remove water from gaseous chlorine. H<sub>2</sub>SO<sub>4</sub> at 93% was put in the system and removed when H<sub>2</sub>SO<sub>4</sub> concentration reached 87%. This H<sub>2</sub>SO<sub>4</sub> was sold except in the coldest winter months when the freezing point of 87% H<sub>2</sub>SO<sub>4</sub> becomes a problem. At those times it was shipped off-site for neutralization. This amounted to about 200 tons yearly.

Some TiO<sub>2</sub> is carried out of the process in waste water. This is pumped to the treatment unit and is included in the solid waste listed above.

21) Describe the storage, treatment and disposal practices for any by-product or wastes associated with each of the manufacturing processes described in response to Requests 18 and 19. This description should identify any use of drums, tanks, lagoons, ponds, waste piles, ditches, marshes, swamps, land treatment or disposal areas, public sewers, landfills, creeks, or waterways used or affected by such practices.

Response:

#### Plant 1

Process effluents from the TiO<sub>2</sub> operation are collected in acid brick trenches and the North Ditch and routed to a central neutralization basin. An agitator mixes these streams with sodium hydroxide to neutralize pH. The overflow from the mixing basin flows into two settling ponds (capacity 800,000 gallons each) arranged in series where the water is clarified by settling. The overflow from the settling ponds is into Fields Brook.

Waste solids from chlorination are concentrated in water and stored in two (2) brick-lined tanks (35,000 gallons capacity). Normally this waste is hauled off-site for treatment and disposal by a private contractor. Occasionally, this waste is taken to Plant #2 for treatment as process wastewater.

35. Determine the location and size of each lagoon, pond, waste pit, trench or pit that has existed on the SCM property and its use. For each lagoon, pond, waste pile, trench or pit describe:

- a) Any hazardous substances that may be or have been contained in them.
- b) The dates of each structure's existence and use.
- c) Any construction properties of each pit, pond, waste pile, trench or lagoon which would help prevent the release of materials from it.
- d) If not in use now, explain how it was closed or has been modified and the present use of the area.
- e) Any pictures, sketches or maps of these facilities.

Response:

Plant 1

Refer to the attached sketch, "Ashtabula Site Plot Plan," Document 1528, for a map showing the location of the below-listed facilities.

1. Pond. SCM believes that this pond was used by Sherwin-Williams in connection with its barium-strontium operations from 1968 to 1972 when it was closed. Its apparent function was to serve as a temporary holding basin for settling pond dredgings. Its contents have not been sampled. Its estimated size is 200,000 gallons. The manner of its construction and closure is unknown. The pond is located on the highly impermeable clay which exists throughout Plant 1.

2. Settling Pond. This pond was used by Sherwin-Williams for treating wastewater by sedimentation from

its barium-strontium operations from 1968 to 1972 when it was closed. Its capacity is estimated to be 100,000 gallons. It was closed with an earthen berm and concrete cell dividers. The manner of its closure is unknown. The pond is located on the highly impermeable clay which exists throughout Plant 1. Its contents have not been sampled.

3. Waste Pile. This waste pile was used by Sherwin-Williams for the disposal of wastes from its barium-strontium operations during the period of those operations from 1968-1972. The method of closure is unknown. The method of construction is unknown; however, the pile is located on the highly impermeable clay which exists throughout Plant 1. Its size is estimated to be 50,000 cubic yards. Leachate tests were conducted by SCM on samples from the pile. SCM is unable to locate copies of those test results, except for barium which are listed on Document 2264.

4. North Holding Basin. This is a 4,000,000 gallon pond which is part of the plant's wastewater treatment facilities. It is used for retention of settling pond sediments and as an emergency retention pond for wastewater. It was constructed in 1972 and remains in use. The pond is located over the highly impermeable clay which exists throughout the plant. It has an 18-inch thick firm clay lining on the bottom and sides. The sides are also covered with crushed stone. Sampling data of the contents of this pond have been previously submitted to EPA and Ohio EPA.

Holding Basin. This 500,000 gallon pond was used in 1972. Its use was the same as the north holding basin. It was excavated out of the highly impermeable clay which exists throughout the plant. It was closed by draining and filling with clay from adjacent areas. Sampling data of the contents of this pond have been previously submitted to EPA and Ohio EPA.

6 and 7. Settling Ponds. These two ponds, each with a capacity of 800,000 gallons, were constructed in 1968 and remain in use for wastewater treatment purposes. The ponds are located over the highly impermeable clay which exists throughout the plant. Each pond has an 18-inch thick firm clay lining on the bottom and sides. The sides are also covered with crushed stone. Sampling data of the contents of these ponds have been previously submitted to EPA and Ohio EPA.

8 and 9. Surge Ponds. These ponds were constructed in 1972 and continue in use to provide collection of raw water (ASHCO) treatment flocculator sediments. The west pond has a capacity of 20,000 gallons. The east pond has a capacity of 70,000 gallons. These bermed ponds were excavated from the highly impermeable clay which exists throughout the plant. They have been sampled but SCM is unable to locate copies of the analysis of those samples.

10. Waste Pile. Dust from the dust collectors on the chlorinator unit are temporarily stored in the southeast corner of the plant prior to off-site disposal. This storage pile was

first used for this purpose in 1969. This pile is located on the impermeable clay which exists throughout the plant. The pile varies. The pile consists of ore or coke fines.

### Plant 2

Listed below are the ponds, thickener and clarifier located at Plant 2. All ponds have been and are used for wastewater treatment purposes and are located in the highly impermeable clay which underlies Plant 2. Maps showing the location of those ponds are attached. See Document 1974-82.

#### TiO<sub>2</sub> Area

Pond 1	50' x 135' x 11' Deep	Built - 1963
Pond 2	50' x 135' x 11' Deep	Built - 1963
Pond 3	50' x 135' x 11' Deep	Built - 1963
Pond 4	50' x 135' x 11' Deep	Built - 1963
Pond 5	Northwest Pond 130 x 180 x 9' Deep	Built - 1972

#### TiCl<sub>4</sub> Area

North Pond	20' x 200' x 13' Deep	Built - 1957
South Pond	20' x 200' x 13' Deep	Built - 1957
Thickener (BG-119)	185 Ft. Diameter x 15' Deep	Built - 1972
East Pond	85' x 90' x 5 Ft. Deep	Built - 1972
Clarifier	22' x 106' x 10'9" Deep	Built - 1967



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P. O. Box 310  
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Ashtabula, Ohio 44004  
Phone: 216-928-1826

February 7, 1973

Mr. Howard Scott  
Ohio Department of Health  
Northeast District Office  
Air Pollution Unit  
1931 Bailey Road  
Cuyahoga Falls, Ohio, 44221

Re: Abnormal Dust Emission  
Sherwin-Williams Chemicals  
Ashtabula Plant

Dear Mr. Scott:

Subject emission occurred on Friday, February 2, from 1430 to 1615 hours as a result of an abnormal process condition. Emission point was the bottom of the spray condenser in the TIDOX<sup>(R)</sup> Plant from which fine solids were discharged. Solids were air borne in a cloud approximately seventy-five feet in width and thirty feet in height. The fallout was essentially completed within plant boundaries. Composition of the dust cloud was substantially coke with small quantities of rutile ore dust and ferric chloride. Color of the cloud was black.

Operations reported an abnormal condition described as above-normal solids carry-over from the spray condenser to the downstream condenser train. This was detected by routine tests, and a decision was made to shut down the operation at 0840 hours. It was suspected that a restriction in the spray condenser tank had occurred and resulted in solids accumulation in the tank.

Subsequent investigation disclosed a restriction in the discharge star valve which could not be removed without opening up the system. A side port was removed from the spray condenser and the solids flowed out immediately in an uncontrolled manner. Location of the port is approximately thirty feet above the ground, and, with a light wind blowing, the very fine particles formed a dust cloud.

The type of condition encountered is a rare occurrence and one with which operations has very limited experience. Control

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Mr. Howard Scott  
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efforts were discussed, but none were immediately practical within the time period available and without risk of injury to operating personnel.

The problem is recognized as one of significance. Immediate action has been taken to initiate the design of equipment which will permit control of such a discharge if the need occurs.

Yours very truly,

SHERWIN-WILLIAMS CHEMICALS

*G. F. Wyman / am*  
G. F. Wyman  
Plant Manager

GFW/am

081981